

STATE OF CALIFORNIA

The Resources Agency

Department of Water Resources

DIVISION OF OPERATIONS AND MAINTENANCE

**STATE WATER PROJECT
ANNUAL
REPORT OF OPERATIONS**

1975

FOREWORD

This is the second in a series of annual reports summarizing the water and power operation of the California State Water Project.^{1/}

Since January 1965 a "State Water Project, Report of Operations" has been published monthly. These reports are limited to tabulations of daily and monthly data on reservoirs, pumping and generation plant operation, plus data on water quality and water deliveries. The monthly report will continue to provide daily and monthly information to State Water Service Contractors, public agencies, and others.

This annual report covers Project facilities in operation during 1975; operational constraints and outages; and significant operations and maintenance events in the five field divisions. Operational data are in the form of annual summaries. Where relevant for comparison, the current and past years' data are shown in charts and/or tables. Corrections, and revisions to the data published in the monthly "State Water Project, Report of Operations" are included.

The history, planning, and description of the State Water Project Facilities are detailed in "California State Water Project, Bulletin No. 200, Volumes I-IV" published by the Department of Water Resources.

^{1/} Other annual publications of the Department of Water Resources on the State Water Project activities include: (1) Annual Report 1975, California State Water Project; and (2) The California State Water Project in 1976, Bulletin 132-76.

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ORGANIZATION OF
DIVISION OF OPERATIONS AND MAINTENANCE

H. G. Dewey, Jr.	Division Chief
Howard H. Eastin (after June 1976)	Division Chief
James J. Doody	Deputy Division Chief

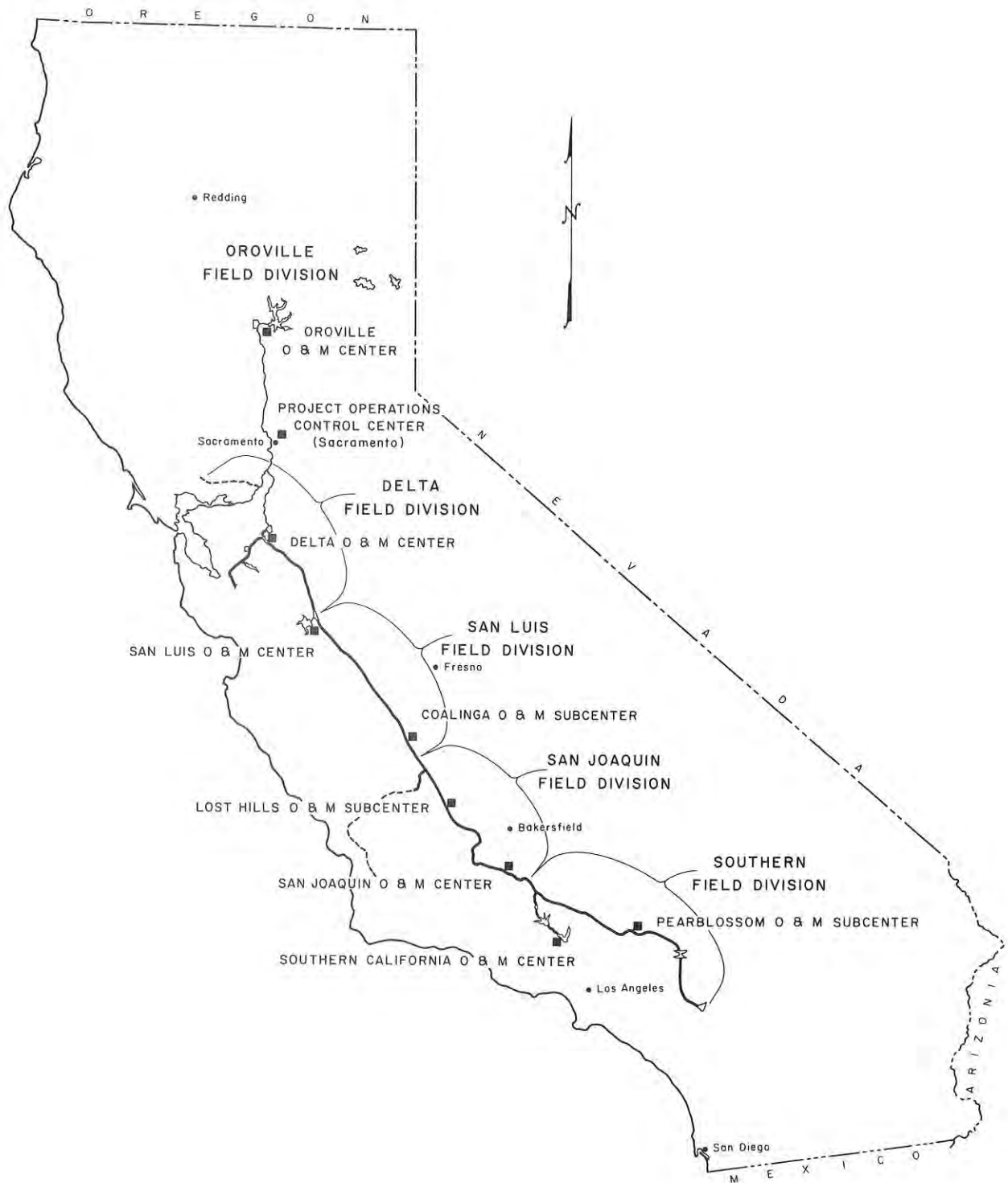
This report was prepared under the direction of

Welby R. Madsen.	Chief, Operations Control Branch
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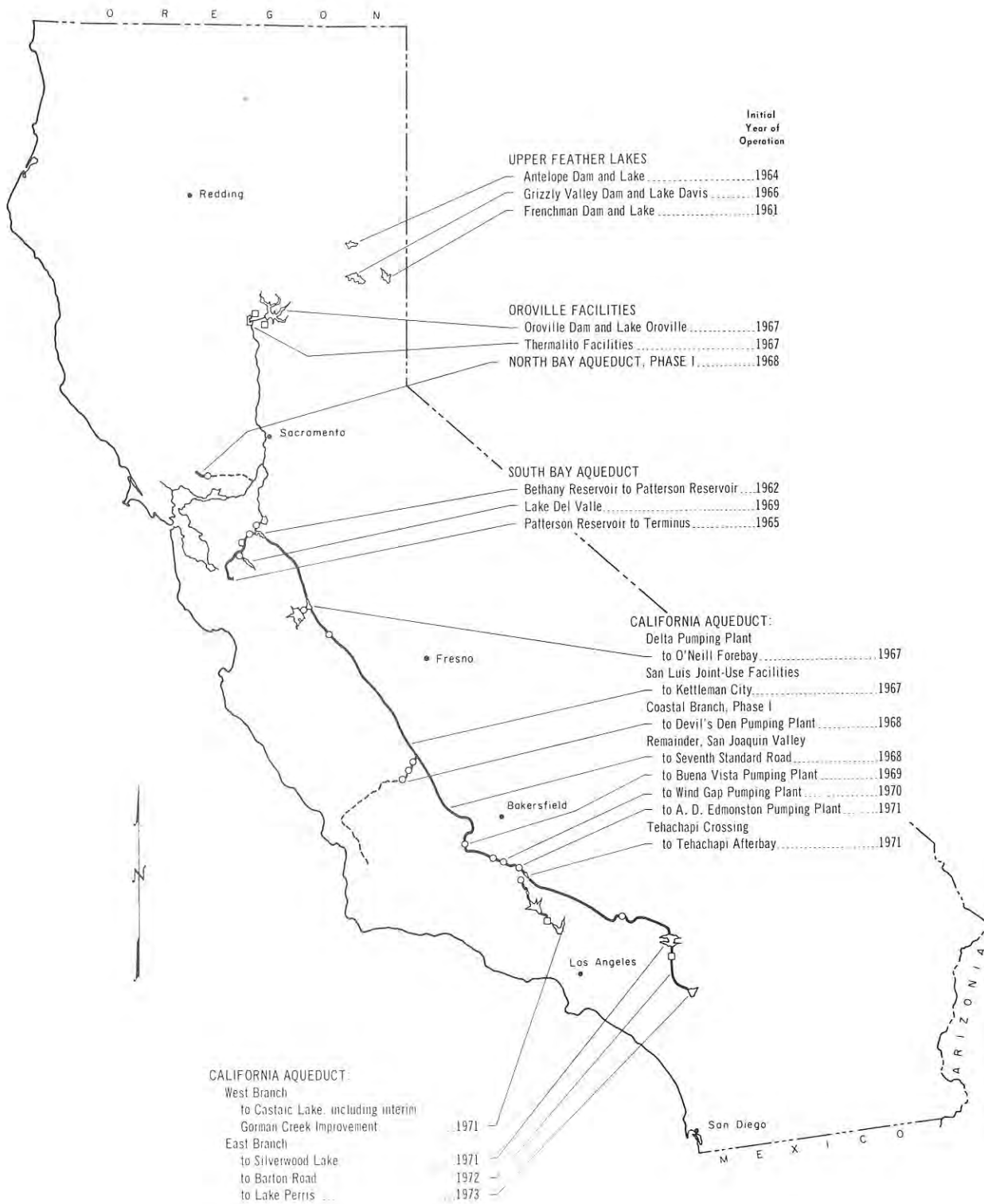
By

Vanburen H. Lemons	Chief, Records and Reports Section
Richard G. Fields.	Records and Reports Section
David H. Fox	Records and Reports Section

FIELD DIVISION BOUNDARIES



PROJECT FACILITIES



HIGHLIGHTS OF 1975 OPERATION

Water Deliveries

State Water Project Contractors received almost two million acre-feet (2 467 000 000 m³) during 1975, up some 42 percent over 1974 deliveries.

Deliveries for the U. S. Bureau of Reclamation to federal water contractors from San Luis Joint Facilities were 1,361,573 acre-feet (1 679 500 295 m³) during 1975, an increase of 21 percent. In addition, a total of 11,700 acre-feet (14 431 950 m³) of Bureau water was wheeled through project facilities south of Check 21 to Kern County Water Agency turnouts for delivery to U. S. Fish and Wildlife Service's Kern National Wildlife Refuge.

Water delivered from project facilities to satisfy prior water rights amounted to 845,795 acre-feet (1 043 288 133 m³). An additional 27,933 acre-feet (34 455 356 m³) of natural flow was released through the Project's southern reservoirs.

Project Generation

The 2.3 billion kilowatthours of electric energy generated at the Hyatt and Thermalito Powerplants was the second lowest year of record, excluding 1968 when Lake Oroville was filling.

The State's share of energy recovered from generation at San Luis Pumping-Generating Plant, 124,226,260 kWh, has only been exceeded by the generation of 1972, 175,010,000 kWh, since operations began in 1968.

For the first time since operations began, the Oroville-Thermalito pump storage facilities were utilized. Beginning the

latter part of April the pump storage operation was instrumental in supplying and utilizing energy of the southwest power pool during times of energy shortages and excesses. The pump storage operation, where water is pumped during off-peak periods and released for generation during on-peak periods, enabled the power companies to maximize use of excess energy, thus reducing the amount of fossil fuel needed during on-peak demand periods.

Reservoir Storage and Operation

Lake Oroville reached its maximum storage of the year, 3,497,909 acre-feet ($4\,314\,670\,752\text{ m}^3$), on June 24. While maintaining flood control reservation, 654,980 acre-feet ($807\,917\,830\text{ m}^3$) over normal operation (B-16 water) were released through the Hyatt-Thermalito Powerplants. Flow over the spillway was thus avoided. Maximum bihourly inflow to the lake during the year was 35,700 cfs ($1011\text{ m}^3/\text{s}$) on February 13. Maximum releases down the Feather River from the Oroville-Thermalito Complex was 10,232 cfs ($290\text{ m}^3/\text{s}$), May 13.

To facilitate repairs of the Hyatt (Oroville) Powerplant intake trashracks, storage in Lake Oroville was drawn down to a minimum of 1,658,970 acre-feet ($2\,046\,339\,495\text{ m}^3$) by January 2.

State's storage in San Luis Reservoir was drawn down 514,729 acre-feet ($634\,918\,222\text{ m}^3$) between May 13 and August 14. The drawdown was to meet water delivery requirements south of Kettleman City during this year's Delta fish test.

Pyramid Lake storage was drawn down from 165,676 acre-feet ($204\,361\,346\text{ m}^3$) on February 5 to 135,143 acre-feet ($166\,698\,891\text{ m}^3$) on March 15, to provide additional water in Castaic Lake during a 75-day outage of LADWP's Castaic Powerplant.

The subsequent refilling operation increased the storage to over 160,000 acre-feet ($197\,360\,000\text{ m}^3$) by March 30. An operating storage range between 160,000 and 168,000 acre-feet ($197\,360\,000\text{ m}^3$) was maintained throughout the remainder of the year.

Castaic Lake storage drawdown began March 15 and went from 222,613 acre-feet ($274\,593\,136\text{ m}^3$) to a low of 158,933 acre-feet ($196\,043\,856\text{ m}^3$) on June 9. The drawdown was necessary to meet water deliveries during the Castaic Powerplant outage. A gradual reservoir filling resumed which resulted in an end-of-the-year storage in Castaic Lake of 236,248 acre-feet ($291\,411\,908\text{ m}^3$). There was no interruption of water deliveries during the year, except for May 6 and 7 when MWD was installing a Tee in a feeder line below the Joseph Jensen Filtration Plant.

Silverwood Lake storage was maintained between 68,000 and 72,000 acre-feet ($83\,878\,000$ and $88\,812\,000\text{ m}^3$) through mid-July. The overall efficiency of the West Branch operations was increased by shifting some pumping from peak months to those of lesser demands when storage in Silverwood Lake was drawn down through August to help meet delivery demands from Devil Canyon Afterbay. Silverwood Lake storage was drawn down further during the unscheduled outage at Wind Gap Pumping Plant. Minimum storage occurred September 13, at 53,906 acre-feet ($66\,493\,051\text{ m}^3$). Silverwood Lake end-of-the-year storage was 61,714 acre-feet ($76\,124\,219\text{ m}^3$).

Lake Perris received 5,504 acre-feet ($6\,789\,184\text{ m}^3$) of Project water through the year to help replace seepage and evaporation losses. Year-end storage was 93,639 acre-feet ($115\,503\,707\text{ m}^3$).

California Aqueduct

From May 15 through July, pumping at the Delta Pumping Plant was limited to demands of the South Bay Aqueduct and North San Joaquin Division. The reduced pumping was a part of this year's Delta Fish Test. The test was to determine if a pre-State Water Project level of export would result in a significant increase in the survival rate of striped bass fingerlings.

Pumping at the Delta Pumping Plant in January included 20,885 acre-feet ($25\,761\,648\text{ m}^3$) of U. S. Bureau of Reclamation water. This water was delivered to O'Neill Forebay while the Delta-Mendota Canal was shut down for cleaning and rehabilitation work. Electrical energy for pumping this water was provided by the Bureau.

California Aqueduct pools 7 and 12 were dewatered between June 3 and August 1, during the period of reduced pumping at the Delta Pumping Plant, for lining inspection and repairs.

Initial water deliveries to the Cross Valley Canal (Greater Bakersfield Turnout) were made in July. Also additional new turnouts were activated to serve Lost Hills Water District and Wheeler Ridge-Maricopa Water Storage District.

The Project's 17 pumping plants pumped a total of 9,066,980 acre-feet ($11\,184\,119\,830\text{ m}^3$) during the year, an increase of 40 percent over 1974 pumping. A new high pumping rate of 3,200 cfs ($91\text{ m}^3/\text{s}$), 10 units, was reached at the A. D. Edmonston Pumping Plant to meet aqueduct flow demands. The pumping included both water for storage in Southern reservoirs and meeting water contractor demands.

Outages

Outages occurred during the year as follows:

January 20 - Gorman Creek Improvement, West Branch, was down for three days for grouting downstream of the 78-inch (1981 mm) valve.

January 25 - Both the San Bernardino Intake Tower and Tunnel, East Branch, were dewatered for emergency repairs to the hydraulic system which operates the butterfly valves in the intake tower. Service was restored February 9.

March 16 - Angeles Tunnel, West Branch, slide gate was closed and tunnel dewatered for 75-day outage to allow installation of valves at the headworks of Castaic Powerplant by Los Angeles Department of Water and Power. Deliveries were maintained from Castaic Lake storage.

May 4 - Pearblossom Pumping Plant, East Branch, during an 11-day outage a cross connection between numbers one and two discharge line was removed.

May 19 - Devil Canyon Powerplant, East Branch, installation of water and air piping for Unit 2 was made during a three-day outage.

August 1 - Oroville Complex, as the result of seismic activity, the complex was separated from the Pacific Gas and Electric system for about one-half hour. Station service was maintained and units were held at no load speed.

September 6 - Wind Gap Pumping Plant, an unscheduled five-day outage occurred when plant's lower galleries were flooded. By September 14, seven of the plant's nine units were back in service.

September 22 - Delta Pumping Plant, pumping was suspended approximately two and one-half hours to locate and remove a truck containing anhydrous ammonia in Pool 8. Aqueduct pH reading indicated no contamination.

December 1 - Gorman Creek Improvement, West Branch, was shutdown five days to repair and grout canal lining.

Limitations

Operational restraints as the results of storage construction, maintenance or revised capacity included:

Between Quail Lake and Pyramid Lake the maximum flow rate was limited to 900 cfs ($25 \text{ m}^3/\text{s}$) (increased from the previous limit of 850 cfs ($24 \text{ m}^3/\text{s}$) on December 22, 1974).

Pearblossom Pumping Plant was limited to a maximum pumping rate of 725 cfs ($21 \text{ m}^3/\text{s}$) starting May 15. When the cross connection was removed between the discharge lines, Unit 3, (rated at 145 cfs ($4 \text{ m}^3/\text{s}$)) became unavailable.

Oso Pumping Plant's maximum pumping rate was limited to about 1,935 cfs ($55 \text{ m}^3/\text{s}$) by the Quail Lake intake structure.

The A. D. Edmonston Pumping Plant was restricted to a maximum of five units pumping to provide a minimum flow rate at the Tehachapi Afterbay control structure during periods in February and March. When stop logs were used to isolate bays in the structure for the installation of radial gates - the minimum flow was required to avoid potential problems of a hydraulic jump occurring in the flatter portion of the Carley V. Porter Tunnel.

PROJECT STATUS IN 1975

The State Water Project conserves water for distribution to much of California's population and irrigated agriculture. It also provides generation of electric power, flood control, water quality control, new recreational opportunities, and enhancement of sport fisheries and wildlife habitat.

The initial Project facilities to become operational were Frenchman Dam and Lake in the Upper Feather River region and the South Bay Aqueduct in the San Francisco Bay area in 1962. In 1973, construction of the "Initial Facilities" of the Project were completed. This provided for operation of the entire Project facilities from Plumas County in the north to Riverside County in the south. During 1975, water was delivered to 21 State Water Contractors; one noncontractor; five U. S. Bureau of Reclamation customers along the San Luis Joint Facilities, 16 local agencies to satisfy prior water rights; and one agency for repayment of water borrowed for preconsolidation of ground around the aqueduct prior to construction.

Facilities in operation during 1975 included: 20 reservoirs with a gross capacity of 6,787,037 acre-feet ($8\,371\,810\,140\text{ m}^3$); five power plants with a gross output capacity of 905 megawatts; 17 pumping plants with 110 pumping units; and some 540 miles (869 km) of aqueduct. Operational data are shown in Sections I-VII; further details on the Project facilities may be found in "California Water Project, Bulletin No. 200, Volumes I-VII".

PROJECT OPERATIONS

Water Conditions

January was relatively dry. Precipitation for the State averaged about 40 percent of normal. Early February storms reversed the dry weather pattern. The cold, wet regime persisted generally through March. By the end of May, which was below normal, precipitation totals were normal north of the Tehachapi Mountains and about 90 percent of normal to the south. Subnormal precipitation was recorded for the remainder of the year except during October when five storm periods over the northern and central part of the State produced an area-wide average in excess of 200 percent of normal for the month.

Spring and summer snowmelt runoff from Central Valley water sheds were generally prolonged. June 1 snow surveys measurements of selected snow courses showed the water content of many were in excess of their April 1 average, the usual date of maximum accumulation. April-July unimpaired flows ranged from 88 percent of normal for the Kern River Basin above Isabella Reservoir to 141 percent of normal for the Feather River Basin above Lake Oroville.

An above normal snowpack in the Feather River Basin (on April 1, water content was 179 percent of normal) helped sustain above median inflow to Lake Oroville throughout the summer and fall months. Although Lake Oroville inflow for the calendar year was the third lowest since storage began in 1968, it was just 150,000 acre-feet ($185\,025\,000\text{ m}^3$) short of exceeding the upper quartile at 4,626,242 acre-feet ($5\,706\,469\,507\text{ m}^3$).

A summary of California water supply conditions during 1974-75 is provided in DWR Bulletin No. 120-75, "Summary October 1974 - September 1975 Water Conditions in California". Data on climate and surface water flows are published in DWR Bulletin No. 130-75, "Hydrologic Data: 1975, Volumes I-VI".

Water Deliveries

Water deliveries to State Water Contractors was 1,899,452 acre-feet^{1/} (2 342 974 042 m³). This was a 42 percent increase over 1974 deliveries or by volume a 574,592 acre-foot (708 759 232 m³) increase. Thus 1975, recorded the Project's largest single year's volume increase in water deliveries to State Water Contractors.

Water deliveries to State Water Contractors in all major service areas during 1975 were above those made in 1974. Water deliveries in 1975 by category compared to 1974 deliveries are: 1) Entitlement - 1,224,457 acre-feet (1 510 367 710 m³), up 40 percent; 2) Surplus - 622, 902 acre-feet (768 349 617 m³), up 49 percent; 3) Regulated delivery of local supply - 45,296 acre-feet (55 872 616 m³), up 112 percent; and 4) Preconsolidation repayment water - 6,797 acre-feet (8 384 100 m³), down 34 percent. In addition, there was water delivered to the Department of Parks and Recreation plus that released down Piru Creek during 1975 for fish enhancement, which together totaled 1,642 acre-feet (2 025 407 m³). A table showing water deliveries by year and totals to date to the individual State Water Contractors is presented on Page 1 of Section 1.

Water deliveries made to U. S. Bureau of Reclamation customers from the joint facilities totaled 1,361,573 acre-feet

^{1/} Does not include Recreation, Fish and Wildlife or Fish enhancement water.

(1 679 500 296 m³), up 21 percent from 1974 deliveries. In addition, 11,700 acre-feet (14 431 950 m³) of U. S. Bureau of Reclamation water was delivered for the Kern National Wildlife Refuge through project facilities at Kern County Water Agency's turnouts in Repayment Reach 10A. This wheeling was provided for by "Contract for Temporary Water Service Between the Bureau of Reclamation, the State of California, and the Fish and Wildlife Service".

Water delivered from the Oroville-Thermalito Complex to satisfy prior water rights totaled 845,795 acre-feet (1 043 288 133 m³), down five percent from 1974 deliveries. Also 27,933 acre-feet (34 455 356 m³) of natural flow was passed through the Project's southern reservoirs to satisfy prior water rights.

Electrical Energy Generation and Use

Electrical energy generated at the Project's five power-plants grossed in excess of three billion kilowatthours. Including the Oroville-Thermalito Complex and the three power recovery plants (Devil Canyon, Castaic, and San Luis), Project's generation during the calendar year of 1974 was almost 3.2 billion kilowatthours (see chart page). Compared to the record year 1974, Project generation was down over 32 percent, or about 1.5 billion kilowatthours. Project use of electrical energy to meet water demands and for reservoir filling increased some 30 percent or about 0.9 billion kilowatthours.

The year's total gross generation at the Hyatt-Thermalito Complex was the second lowest since 1969, the first year of full

operations. This year's generation at the Complex exceeded the lowest year's generation (1969) by 39 percent. The 2.3 billion kilowatthours generated this year was 43 percent below the record 1974 generation. A graph showing the annual amounts of generation at the Hyatt-Thermalito Complex is presented in Section VI, page 1.

Total electrical energy generated at the Project's three recovery powerplants (San Luis, Castaic, and Devil Canyon) exceed 0.8 billion kilowatthours, up 62 percent over the energy recovered at the three plants in 1974.

Special Activities

During the latter part of April, a series of hydraulic operation tests were conducted in the North San Joaquin Division of the California Aqueduct. The objective of these tests was to obtain operational data at high aqueduct flows for future aqueduct operation, especially concerning possible adverse hydraulic transients. The tests involved three different type gate operations at different flows. The results of these tests were used in the refinement of computer programs for controlling flows along the aqueduct.

At Oroville a series of tests were conducted over several months in the spring of 1975 to establish prototype performance for one turbine and one pump-turbine at the Hyatt Powerplant. The draw-down of Lake Oroville for trashrack repair provided a unique opportunity to operate under a wide range of heads since all previous tests had been performed at heads higher than the rating points of the units. Performance characteristics are essential to establish the most efficient gate positions for optimum operation at the various heads.

Following the flooding of the Wind Gap Pumping Plant, due to the failure of a mechanical coupling, an inventory was made of all grooved-joint mechanical couplings used in State Water Project facilities. Approximately 830 were inventoried of which some 50 were found to be substitutes for the specified "Victaulic" brand. The initial review indicated these 50 substitutions were adequately rated for the service they were performing and did not require immediate replacement.

As a possible alternative to the annual installation of a rock barrier dam in the Old River channel an aeration test was made to evaluate the effectiveness of compressed air reoxygenation to eliminate dissolved oxygen deficiency. This aeration test was in addition to the Old River closure (rock barrier dam) to eliminate the oxygen block.

Underwater inspections were made of underwater structures within Castaic and Pyramid Lakes, December 5 and 6. These inspections were the first where an ocean mini-submarine was used in reservoirs.

Oroville Field Division

Of the three Upper Feather River reservoirs, only Antelope Lake spilled during the spring runoff period. Frenchman Lake and Lake Davis filled to near capacity (see monthly operations Section V, page 1).

Lake Oroville filled to near maximum capacity of 3.5 million acre-feet ($4\ 317\ 250\ 000\ m^3$) on June 24. Flow over the spillway was avoided from the year's above-normal snowpack (179 percent of normal on April 1) runoff by adjusting releases in light of short term forecasts of runoff and water supply based

on snow surveys. Thus maximum utilization of inflow was provided while maintaining flood control requirements. Generation at the Hyatt-Thermalito Complex was 2,343,530 MWh, the second lowest of record, excluding 1968 when Lake Oroville was filling. The maximum bihourly inflow rate to Lake Oroville was 35,700 cfs ($1011 \text{ m}^3/\text{s}$) on February 13.

Minimum storage in Lake Oroville, 1,658,970 acre-feet, ($2\ 046\ 339\ 495 \text{ m}^3$) was recorded on January 2. This was the lowest Lake Oroville storage has been drawn down since initial filling. This drawdown, to repair the Hyatt Powerplant Intake trashracks, was provided for under a supplement to the Oroville-Thermalito Power Sales Contract. By April 20, storage in Lake Oroville was sufficient to be "to normal operating level" by terms of the supplement.

Releases to satisfy prior rights of Sutter Butte Canal, Richvale Canal, Pacific Gas and Electric Lateral, Western Canal, and Palermo Canal totaled 845,795 acre-feet ($1\ 043\ 288\ 133 \text{ m}^3$). Maximum rate of release to satisfy these rights was 3,554 cfs ($101 \text{ m}^3/\text{s}$) on May 10. Releases to the Feather River totaled 2,952,114 acre-feet ($3\ 641\ 432\ 619 \text{ m}^3$) with the maximum release rate recorded on May 13, at 10,232 cfs ($290 \text{ m}^3/\text{s}$).

This year's critique of the annual inspection of the Oroville Field Division was held June 27. Mr. James J. Doody, Deputy Chief, Division of Operations and Maintenance, conducted the critique with Mr. Philip F. Johns, Chief, Oroville Field Division, representing the Field Division. Mr. Ray Ferguson represented the California Water Commission's Committee on Annual Review of the State Water Project.

The surface water temperature in Lake Oroville reached a high of 81°F (27°C) on July 26. A minimum temperature of 46°F (8°C) was recorded on January 16 and March 26. Water temperature requirements of the Feather River Fish Hatchery and downstream irrigation were met by utilizing the multi-level Hyatt Powerplant intake structure.

For the first time since operation began the Oroville-Thermalito pump storage facilities were utilized. Beginning the latter part of April the Project was instrumental in providing and utilizing energy of the southwest power pool during times of energy shortages and excesses. By pumping during off-peak periods and generating during on-peak periods, the Project's facilities enabled the power companies to make maximum use of excess energy and reduce the amount of fossil fuel needed during on-peak demand periods. Including water pumped for testing a total of 51,299 acre-feet (63 277 317 m³) was pumped into Lake Oroville during the year.

On August 1, one of the largest earthquakes recorded in the foothills of the Sierra Nevadas occurred near Oroville. The major shock, with an estimated Richter Scale value between 5.7 and 6.1, occurred at 1320 P.D.T. with the epicenter located near Palermo, Butte County. Earlier in the day, several smaller shocks preceded the major shock. Numerous aftershocks continued through the year (for further details see DWR Bulletin No. 201).

Resulting damage from the seismic action was minor; none affected safety or operations. No structural damage was observed to facilities nor were there any slides or sloughing observed in the reservoir.

Installation of rebuilt heat exchangers on Hyatt Switchyard transformers was initiated in September. Rebuilding of the heat exchangers was mainly to eliminate a leakage problem. One exchanger from each transformer was assembled in contractor's plant, and reinstalled prior to removal of the second. By year's end, the heat exchangers for Units No. 1 and 3 were installed.

A series of tests were conducted over several months in the spring of 1975 to establish prototype performance for one turbine and one pump-turbine at the Hyatt Powerplant. The draw-down of Lake Oroville for trashrack repair provided a unique opportunity to operate under a wide range of head, since all previous tests had been performed at heads higher than the rating points of the units. Performance characteristics were essential to establish the most efficient gate positions for optimum operation at the various heads, and were also required to provide an "original condition" basis of comparison for the annual tests as defined in Article B-19 of the Power Sales Contract. Power swing records are required to determine the magnitude of the fluctuations at various heads and loading conditions. The records obtained provided data necessary to establish a modified operating procedure should the power swings be proven unacceptably large at a certain loading point. These records also provided the ground work for future tests to determine if air injection or some other approach can reduce the swings to an acceptable level. Reliable performance characteristics for all units are now available.

Delta Field Division

Because of this year's early period of below normal precipitation, a pumping operation to refill Lake Del Valle on the South Bay Aqueduct was conducted between February 10 and March 2. Total water pumped was 4,571 acre-feet ($5\,638\,329\text{ m}^3$). Subsequently, local inflow increased storage to the year's maximum 41,957 acre-feet ($51\,753\,960\text{ m}^3$) on March 25. Since all storage above 40,000 acre-feet ($49\,340\,000\text{ m}^3$) occupies space reserved for flood control, that storage was gradually released to the South Bay Aqueduct through June 3. Of this year's total releases for flood control, 11,439 acre-feet ($14\,110\,007\text{ m}^3$), 5,126 acre-feet ($6\,322\,921\text{ m}^3$) was released to the South Bay Aqueduct. The annual drawdown began September 15 after the Admission Day weekend. Minimum storage during the year, 20,578 acre-feet ($25\,382\,963\text{ m}^3$) was recorded on January 1 and 2.

Water pumped at the Delta Pumping Plant totaled 1,886,772 acre-feet ($2\,327\,333\,262\text{ m}^3$) for the year. Of this amount 20,885 acre-feet ($25\,761\,648\text{ m}^3$) was for the U. S. Bureau of Reclamation. Weekly pumping rates ranged from 2,677 acre-feet ($3\,302\,080\text{ m}^3$) (June 6-17) to 61,900 acre-feet ($76\,353\,650\text{ m}^3$) (September 5-11). Project water pumped at the Delta Pumping Plant was up 302,797 acre-feet ($373\,500\,100\text{ m}^3$) or 19 percent over that pumped in 1974.

Water pumped for the U. S. Bureau of Reclamation at the Delta Pumping Plant was wheeled through the California Aqueduct and delivered to O'Neill Forebay. This occurred during early January when the Delta-Mendota Canal was down for maintenance.

All power required for pumping this water was provided by the U. S. Bureau of Reclamation.

This year's critique of the Annual Inspection of the Delta Field Division was held May 16. Mr. H. G. Dewey, Jr., Chief, Division of Operations and Maintenance, conducted the critique with Mr. Charles F. Tarbox, Chief, Delta Field Division, representing the Field Division. Among those participating in the critique were: Mr. Clare W. (Bill) Jones, representing the California Water Commission Committee on Annual Review of the State Water Project and Mr. Robert B. Jansen, Deputy Director, Department of Water Resources.

Between May 15 and August 1, pumping at the Delta Pumping Plant was limited to South Bay Aqueduct and North San Joaquin water demands. Decision 1379, as one of its water quality standards for the protection of fish and wildlife (c, 1.6), provides that export pumping will be minimized for a five-week period from April 25 through May 31 of each year during the peak of the striped bass spawning. At the request of the Department of Fish and Game, this period was modified and extended as a test. This year's Delta Fish Test was to determine if a pre-State Water Project level of export would result in a significant increase in the survival rate of striped bass fry.

From June 3 through August 1, during the period of reduced pumping at the Delta Pumping Plant, Pools 7 and 12 of the California Aqueduct were dewatered for repairs and inspection. Some 51 tons (46 266 kg) of game fish were salvaged and transplanted to other pools during the dewatering. Normal operation was resumed on August 2.

Pumping was stopped at the Delta Pumping Plant on September 22 for about two and one-half hours to locate and remove a truck containing anhydrous ammonia from pool 8. Aqueduct pH reading indicated no contamination.

Water delivered to State Water Contractors within the San Francisco Bay area and North San Joaquin Valley totaled 151,820 acre-feet ($187\,269\,970\text{ m}^3$), up 46 percent over 1974 deliveries. Also 4,263 acre-feet ($5\,258\,411\text{ m}^3$) of mitigation water, the Project's share, was delivered to three parties through Delta-Mendota Canal and Mendota Pool facilities by USBR. The Project furnished the electrical energy for pumping its share of mitigation water at the Tracy Pumping Plant. Conveying of all mitigation water through U. S. Bureau of Reclamation facilities provides an overall saving to both agencies.

At the Delta Fish Protective Facility, an estimated 11.6 million fish were removed from the water being exported and returned to the Delta. This estimate is the third lowest of record, reflecting the greatly reduced pumping rates in effect during the normal period of peak fish abundance. The three most abundant species of fish removed were: striped bass, 4.8 million; American shad, 2.9 million; and threadfin shad, 1.8 million.

To evaluate the effectiveness of compressed air re-oxygenation to eliminate a dissolved oxygen deficiency, an aeration diffuser was fabricated and installed in the San Joaquin River on September 30. This aeration test was in addition to the Old River closure (rock barrier dam) annually constructed to eliminate the oxygen block. Analysis of test effectiveness and

the need for further tests are presently under consideration. If this technique of areation proves feasible it could eliminate the need for reinstalling the rock barrier each year.

Construction of the rock barrier at the head of Old River was started on September 17, and completed September 26. Because of rising flows, the structure did not stabilize until about October 1. The barrier was installed to aid the 1975 fall migration of salmon to spawning areas upstream of Stockton in accordance with the March 10, 1969, Memorandum of Understanding between the U. S. Bureau of Reclamation, Department of Water Resources, and the Department of Fish and Game to maintain and rebuild salmon stocks in the San Joaquin River drainage area. Salmon will not migrate through areas with dissolved oxygen levels below 5.0 ppm. Just prior to installation of the barrier, dissolved oxygen levels were below 5.0 ppm in a number of areas of the San Joaquin River near Stockton. By October 10, all but one station was above 5.0 ppm and by October 21, all stations were above 5.0 ppm. The barrier was removed November 10.

San Luis Field Division

This year's operation resulted in San Luis Reservoir storage being drawn down to its lowest since initial filling in 1968. San Luis Reservoir storage ranged from a high of 2,004,122 acre-feet ($2\,472\,084\,487\text{ m}^3$) on April 21 to a low of 907,172 acre-feet ($1\,118\,996\,662\text{ m}^3$) on August 31. Water pumped into San Luis Reservoir storage this year totaled 974,657 acre-feet ($1\,202\,239\,410\text{ m}^3$), of which 470,594 acre-feet ($580\,477\,699\text{ m}^3$) was Project water. Water released to O'Neill Forebay amounted to 1,109,674 acre-feet ($1\,368\,782\,879\text{ m}^3$), with State's share totaling 524,410 acre-feet ($646\,859\,735\text{ m}^3$). On December 31, 1975, San Luis Reservoir storage

was 1,722,575 acre-feet (2 124 796 263 m³), 914 203 acre-feet (1 127 669 401 m³) being the State's share.

Los Banos Reservoir releases for the year totaled 6,220 acre-feet (7 672 370 m³), of which 27 acre-feet (33 305 m³) was used to test headgates. During 1974, 9,375 acre-feet (11 564 063 m³) was released from Los Banos Reservoir. Beginning and ending storages for the year were 19,001 and 19,231 acre-feet (23 437 734 m³ and 23 721 439 m³) respectively.

Little Panoche Reservoir releases for the year were 454 acre-feet (560 009 m³) compared to 161 acre-feet (198 594 m³) during 1974. Beginning and ending storages for the year were 306 and 308 acre-feet (377 451 m³ and 379 918 m³) respectively.

Water delivered to customers of the Federal Central Valley Project from the San Luis Field Division totaled 1,361,573 acre-feet (1 679 500 296 m³), up 21 percent over 1974 deliveries. Water deliveries to Federal customers were made from 166 turnouts (44 permanent and 122 temporary).

This year's critique of the annual inspection of the San Luis Field Division was held April 11. Mr. H. G. Dewey, Jr., Chief, Division of Operations and Maintenance, conducted the critique with Mr. Jack E. Arnold, Chief, San Luis Field Division, representing the field division. Messrs. Samuel B. Nelson and Ernest R. Nichols represented the California Water Commission's Committee on Annual Review of the State Water Project at the critique. Also participating in the critique were representatives of the U. S. Bureau of Reclamation: Messrs. Dave Coleman, Chief, Central Valley Operations Coordinating Office; E. R. Klinke, Chief, Power O&M Branch; W. O. Brown, Chief, Irrigation O&M Branch; Tom Wiebe; and

Bob Lorance from Sacramento and Messrs. Lee Gerbig and Berlin Mungle from Denver, Colorado.

To accomplish the reduction in the combined pumping of the CVP and SWP to approximately 4,500 cfs ($127 \text{ m}^3/\text{s}$) for this year's Delta Fish Test and meet both agency's water demands, San Luis Reservoir storage was used to replace the reduced pumping. The energy, above that recovered from generation, required to pump the water used for the test back into San Luis Reservoir from O'Neill Forebay was shared equally between the Project and U. S. Bureau of Reclamation. Between May 13 and August 1, 511,161 acre-feet ($630\,517\,094 \text{ m}^3$) of State and 94,249 acre-feet ($116\,256\,142 \text{ m}^3$) of Federal water was released from San Luis Reservoir storage for the purpose of the test. Based on the assumption that the test water was last out and first into San Luis Reservoir storage, each agency's share of the energy, above that received from generation to replace the test water, was estimated to be 17,817,000 kWh. Adjustment of shares was accomplished through an exchange of 36,374 acre-feet ($44\,867\,329 \text{ m}^3$) of Project water in O'Neill Forebay for an equal amount of U. S. Bureau of Reclamation water in San Luis Reservoir.

On January 18, 66 miles (106 km) of the California Aqueduct in the San Luis Field Division was opened to walk-in fishing. This increased access to walk-in fishing along the California Aqueduct in the San Luis Field Division to 100 miles (161 km).

San Joaquin Field Division

Water delivered to State Water Contractors totaled 1,167,382 acre-feet (1 439 965 697 m³), up 31 percent over 1974 water deliveries. In July the first water through the Cross Valley Canal turnout was delivered to Kern County Water Agency. During the year new turnouts were also activated to serve lands in Lost Hills Water District and Wheeler Ridge-Maricopa Water Storage District.

In addition, from September through November, 11,700 acre-feet (14 431 950 m³) of U. S. Bureau of Reclamation water was wheeled from check 21 to Kern County Water Agency turnouts in Reach 10A. This was a one-time interim arrangement to provide water to the Kern National Wildlife Refuge for the U. S. Fish and Wildlife Service.

The critique on this year's annual inspection of the San Joaquin Field Division was held October 10. Mr. H. G. Dewey, Jr., Chief, Division of Operations, conducted the critique with Mr. Merle S. Bashor, Chief, San Joaquin Field Division, representing the field division. Mr. Samuel B. Nelson represented the California Water Commission's Committee on Annual Review of the State Water Project.

The A. D. Edmonston Pumping Plant this year reached instantaneous flow rates of 3,200 cfs (91 m³/s) from ten units, during normal operation.

Modifications and installation of equipment were initiated to allow for remote control of turnouts from the San Joaquin Area Control Center. Water delivered through these turnouts is presently controlled at the site by men working rotating shifts for around-the-clock coverage.

On September 6, Wind Gap Pumping Plant was flooded when a 10-inch balance line failed on Unit 5. The plant was dewatered and returned to full operational status, except for Units 4 and 5 which share a common discharge line, on September 14. By October 11, repairs were completed and Units 4 and 5 were available for operations.

On November 22, Wind Gap Pumping Plant's Unit 6 nose cone came off while the unit was in service. The leading edges of the impeller vanes were damaged as the loose nose cone was drawn into the impeller. Investigations into the cause were conducted through December.

Southern Field Division

Pyramid Lake end-of-year storage was 166,312 acre-feet (205 145 852 m³). The combined storage of Pyramid Lake and Elderberry Forebay generally ranged between 180,000 and 190,000 acre-feet (222 030 000 and 234 365 000 m³), except for the 5-month period starting in February to accommodate the outage of LADWP's Castaic Powerplant. Because of this year's extended outage of Castaic Powerplant, Pyramid Lake operations were scheduled for maximum water deliveries through the Gorman Creek facilities. To increase deliveries through the Gorman Creek facilities by an estimated 30,000 to 40,000 acre-feet (37 005 000 to 49 340 000 m³), Pyramid Lake was drawn down to 135,143 acre-feet (166 698 891 m³), between February 6 and March 15. Replenishing of storage to 169,515 acre-feet (209 096 753 m³) continued through May 5. Storage was again drawn down, after the outage, beginning June 6, to refill the Angeles Tunnel and Elderberry Forebay, reaching

150,529 acre-feet (185 677 522 m³) June 13. Refilling continued into July along with normal operations.

The Castaic Powerplant 75-day outage was at the request of the Los Angeles Department of Water and Power for their contractor to install valves for Units 3, 4, 5, and 6. While Angeles Tunnel was dewatered, two inspections were made. The first ascertained that there had been little or no change since the inspection of April 1974. The second inspection was to measure changes in seepage rates into the tunnel. This outage of Angeles Tunnel provided the second test of the recommended dewatering time of seven days and a filling time of 30 hours.

Castaic Lake end-of-year storage was 236,248 acre-feet (291 411 908 m³). The initial filling operation was continued from last year through March 15, at a nearly constant rate of one foot per day (0.30 meters per day), peaking when storage reached 222,613 acre-feet (274 593 136 m³). Releases to meet Metropolitan Water District demands during the Castaic Powerplant 75-day outage reduced Castaic Lake storage to a low of 158,933 acre-feet (196 043 856 m³) on June 9. The refilling operation through July was limited to replenishing water released after the Delta Fish Test began. Only about a third of the replenishment was accomplished mainly because of the peak water demand period and the desire to conserve storage in San Luis Reservoir. The refilling operation was again stayed in September because of the Wind Gap Pumping Plant unscheduled outage and again in December when the Gorman Creek Improvement was dewatered for five days to repair and grout the canal lining.

Silverwood Lake end-of-year storage was 61,714 acre-feet (76 124 219 m³). The principle refilling operation of Silverwood Lake, required because of the drawdown during the October 1, 1974 to November 15, 1974 outage, continued through January 13. Storage ranged between 68,400 and 72,264 acre-feet (84 371 400 and 89 137 644 m³) through July 10. To optimize operations by shifting pumping from a month of peak demand, Silverwood Lake storage was drawn to 54,893 acre-feet (67 710 516 m³) through August 21. The refilling operation was halted with the Wind Gap Pumping Plant flooding and releases to meet water deliveries lowered storage to 55,058 acre-feet (67 914 043 m³) September 15. Refilling was again stopped and storage again started downward on November 11, when deliveries exceeded the capacity of Pearblossom Pumping Plant.

Lake Perris end-of-year storage was 93,639 acre-feet (115 503 707 m³). Inflow was limited to 5,504 acre-feet (6 789 184 m³) as the results of the occasional use of Lake Perris to maintain Devil Canyon Powerplant generation. Measured outflow was 251 acre-feet (309 609 m³) which was seepage collected and delivered to the Metropolitan Water District.

Water delivered to State Water Contractors in this field division was 575,665 acre-feet (710 082 778 m³), up 83 percent over 1974 water deliveries. Of this year's deliveries, 69 percent was delivered from the East Branch and 31 percent from the West Branch while in 1974, 33 percent was delivered from the East Branch and 67 percent from the West Branch. Annual water deliveries by contractors are summarized in Section I, page 1.

The critique of this year's annual inspection of the Southern Field Division was held November 21. Mr. H. G. Dewey, Jr., Chief, Division of Operations and Maintenance, conducted the critique with Mr. Herbert S. Cohn, Chief, O&M Engineering, Southern Field Division, representing the field division. Mr. Samuel B. Nelson represented the California Water Commission's Committee on Annual Review of the State Water Project.

On the West Branch, Gorman Creek was shut down for three days, January 20-22, to perform minor grouting immediately downstream of the 78-inch (198 cm) valve. During this period all of the water pumped at the A. D. Edmonston (Tehachapi) Pumping Plant was transported through the East Branch.

The Angeles Tunnel was dewatered between March 16 and June 4, 75 days, to allow the Los Angeles Department of Water and Power to install valves on penstocks 3, 4, 5, and 6 of the Castaic Powerplant. Service to water contractors on the West Branch was provided from storage in Castaic Lake.

Refilling of the tunnel began on June 4 and was completed on June 6. The successful testing of the intake slide gate was performed locally at the gate control panel, Castaic Powerplant; Southern California Area Control Center; and the Project Operations Control Center. In April, during the tunnel outage, modifications to the 108-inch valve at the outlet of Quail Lake were performed. During April, Devil Canyon Afterbay, with a capacity of 50 acre-feet (61 675 m³), was decreased to 32 acre-feet (39 472 m³) for the installation of the San Gabriel Valley Municipal Water District turnout slide gate. Stop logs were installed by the Carley V. Porter Tunnel outlet in September to allow for the

installation of two additional radial gates at the Tehachapi Control Structure.

During the week of September 8, the Metropolitan Water District discontinued water deliveries from Devil Canyon Afterbay to their Weymouth plant because of a taste and odor problem. Phytoplankton sampling of Silverwood Lake indicated moderate concentrations of potential odor-causing organisms, including the blue-green alga Anabaena sp. On September 15, Silverwood Lake was treated with copper sulfate. Water deliveries resumed from Devil Canyon Afterbay on September 30.

Lake Perris also experienced a bloom of blue-green algae. However, the bloom did not cause any problems.

On September 12, Silverwood Lake reached its lowest elevation of the year and as a consequence of the low head Devil Canyon Powerplant generation was limited to 350 cfs ($9.9 \text{ m}^3/\text{s}$). Beginning December 1 through December 5 Gorman Creek Canal was shut down for the second time during the year for patching and grouting.

Underwater inspections were made of submerged structures within Castaic and Pyramid Lakes, December 5 and 6. These inspections were the first where an ocean mini-submarine was used in reservoirs. Designed for two persons, an operator and an observer, and for depths up to 1,000 feet (305 meters), the submarine was capable of reaching the maximum depth of all submerged structures in Project reservoirs. While visibility varied during the inspection, a permanent record of all structures inspected was made on video tape for future reference. The inspection uncovered no problems and the facilities were operating normally.

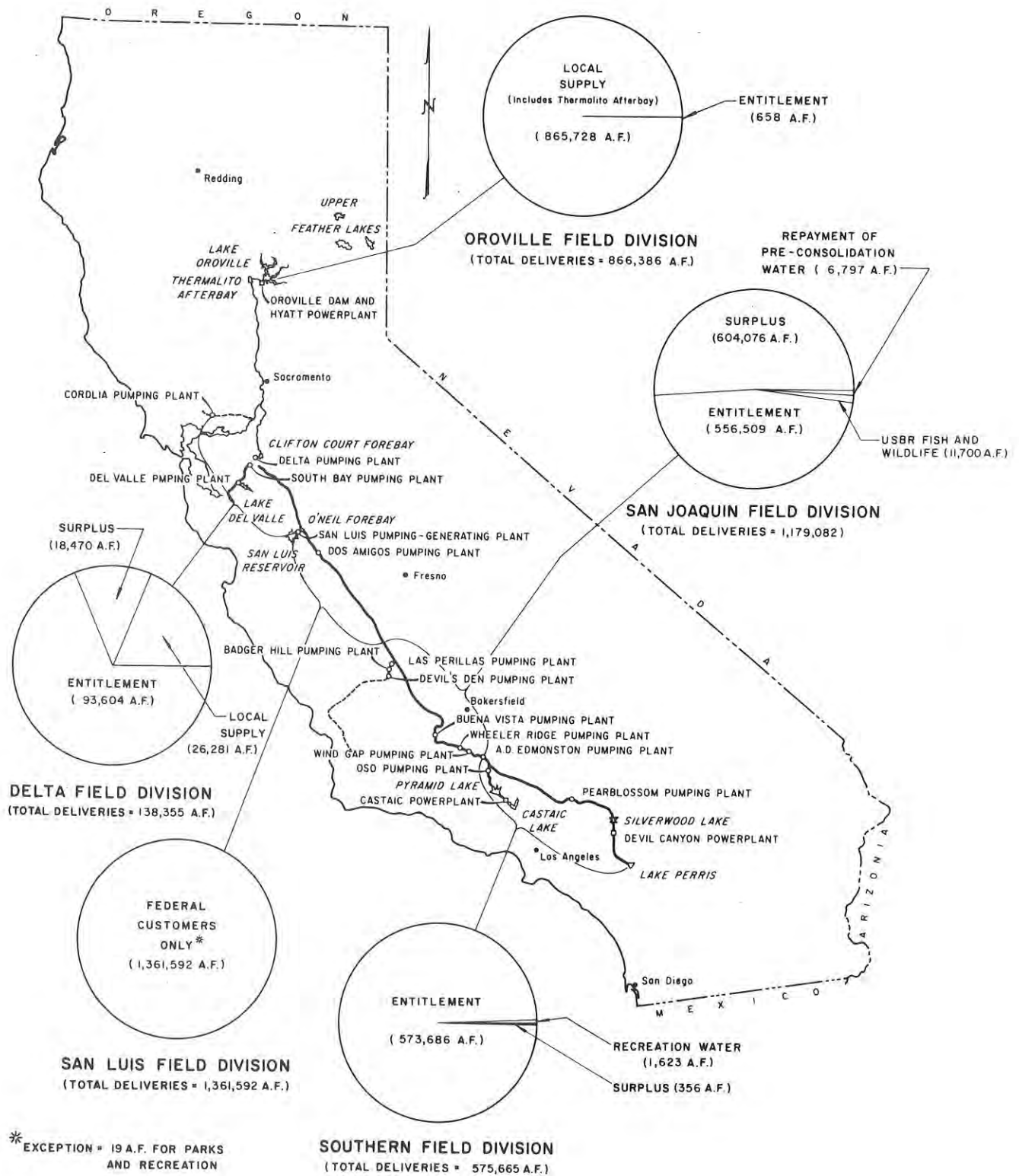
CONVERSION FACTORS

English to Metric System of Measurement

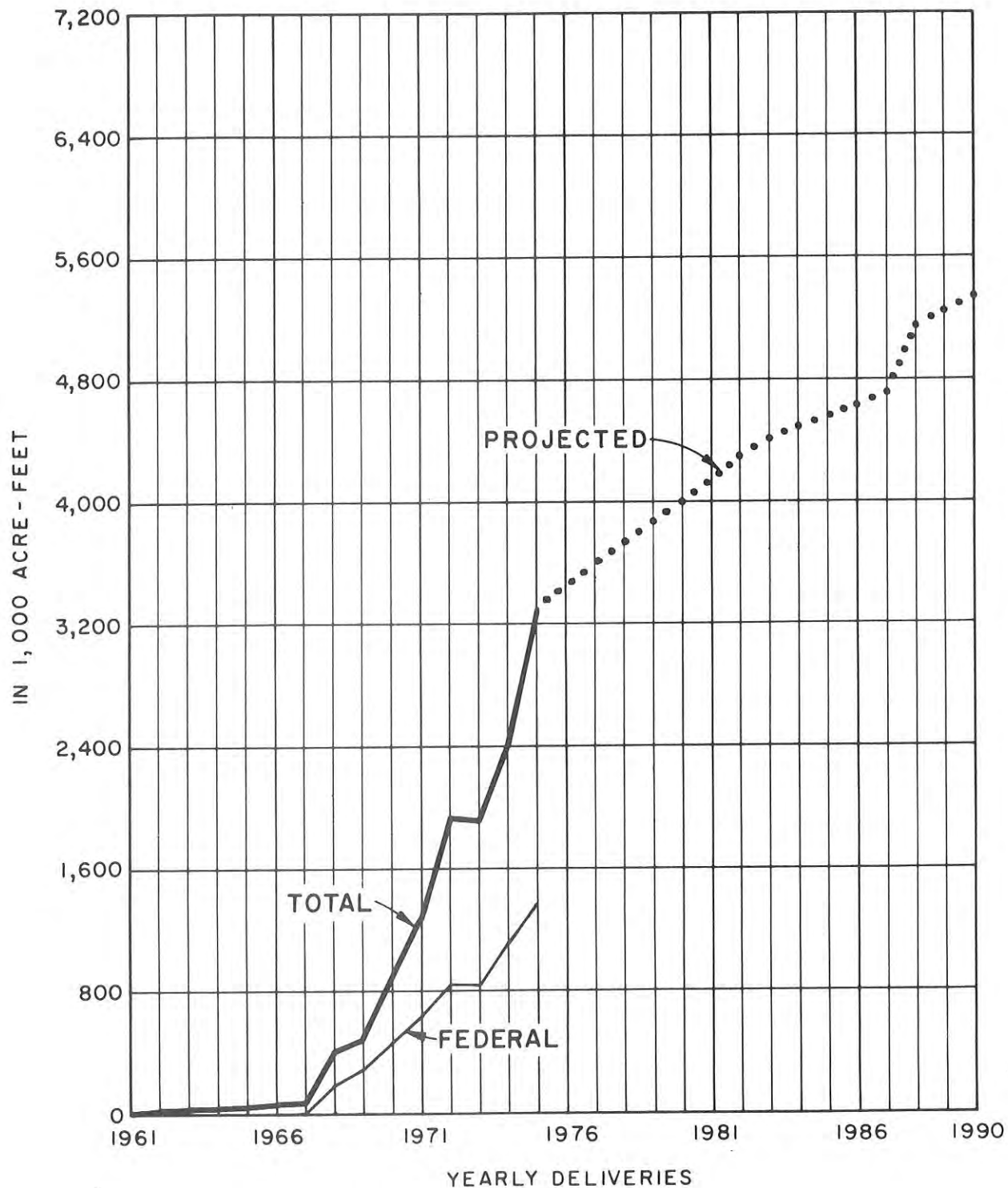
Quantity	English unit	Multiply by	To get metric equivalent
Length	inches (in)	25.4	millimetres (mm)
		.0254	metres (m)
	feet (ft)	.3048	metres (m)
	miles (mi)	1.6093	kilometres (km)
Area	square inches (in ²)	6.4516×10^{-4}	square metres (m ²)
	square feet (ft ²)	.092903	square metres (m ²)
	acres	4046.9	square metres (m ²)
		.40469	hectares (ha)
		.40469	square hectometres (hm ²)
		.0040469	square kilometres (km ²)
	square miles (mi ²)	2.590	square kilometres (km ²)
Volume	gallons (gal)	3.7854	litres (l)
		.0037854	cubic metres (m ³)
	million gallons (10 ⁶ gal)	3785.4	cubic metres (m ³)
	cubic feet (ft ³)	.028317	cubic metres (m ³)
	cubic yards (yd ³)	.76455	cubic metres (m ³)
	acre-feet (ac-ft)	1233.5	cubic metres (m ³)
		.0012335	cubic hectometres (hm ³)
Volume/Time (Flow)		1.233×10^{-6}	cubic kilometres (km ³)
	cubic feet per second (ft ³ /s)	28.317	litres per second (l/s)
		.028317	cubic metres per second (m ³ /s)
	gallons per minute (gal/min)	.06309	litres per second (l/s)
		6.309×10^{-5}	cubic metres per second (m ³ /s)
	million gallons per day (mgd)	.043813	cubic metres per second (m ³ /s)
Mass	pounds (lb)	.45359	kilograms (kg)
	tons (short, 2,000 lb)	.90718	tonne (t)
		907.18	kilograms (kg)
Power	horsepower (hp)	0.7460	kilowatts (kW)
Pressure	pounds per square inch (psi)	6894.8	pascal (Pa)
Temperature	Degrees Fahrenheit (°F)	$\frac{t_F - 32}{1.8} = t_C$	Degrees Celsius (°C)

PROJECT DELIVERIES

1975

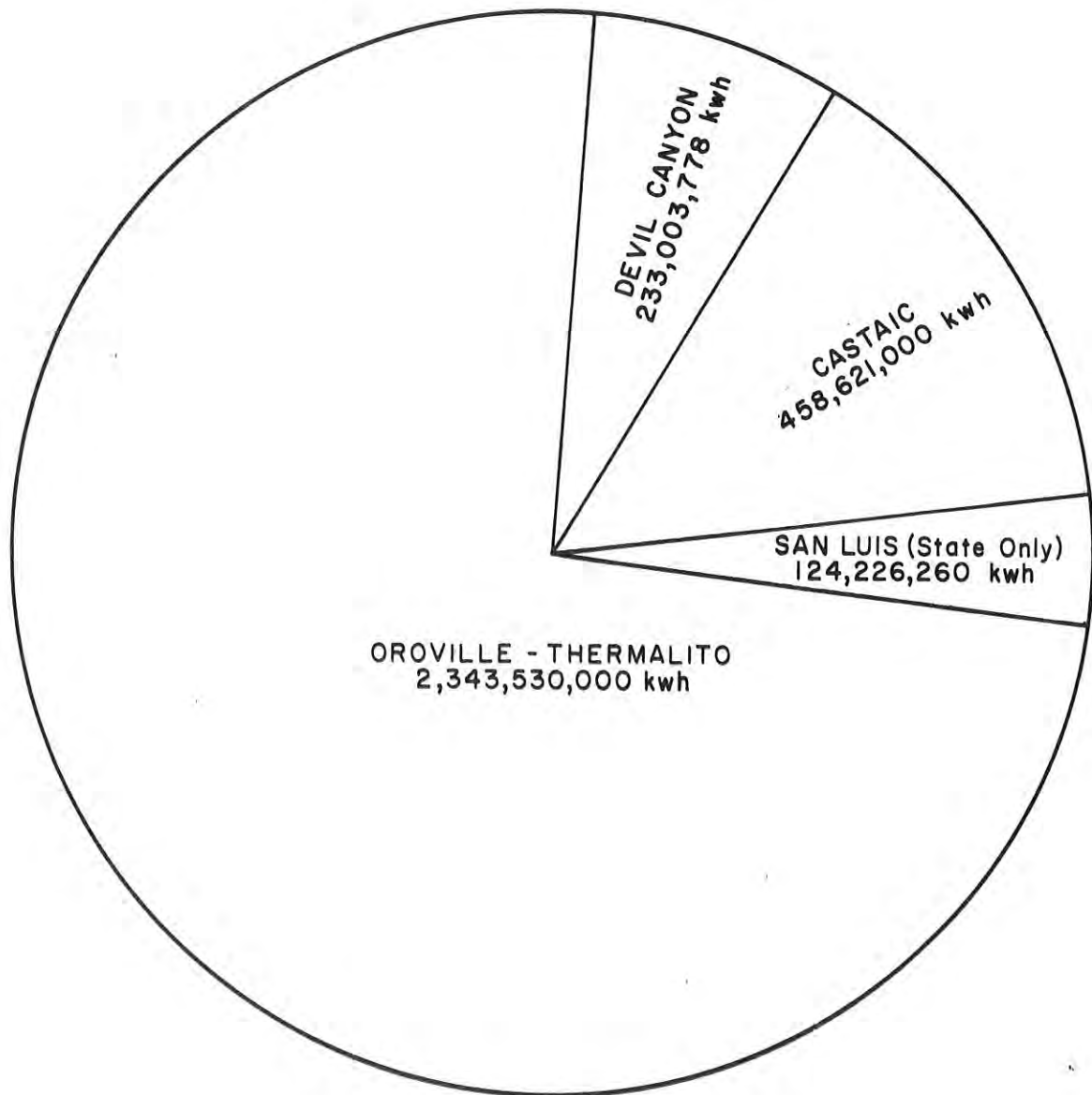


PROJECT DELIVERIES - YEARLY TOTALS



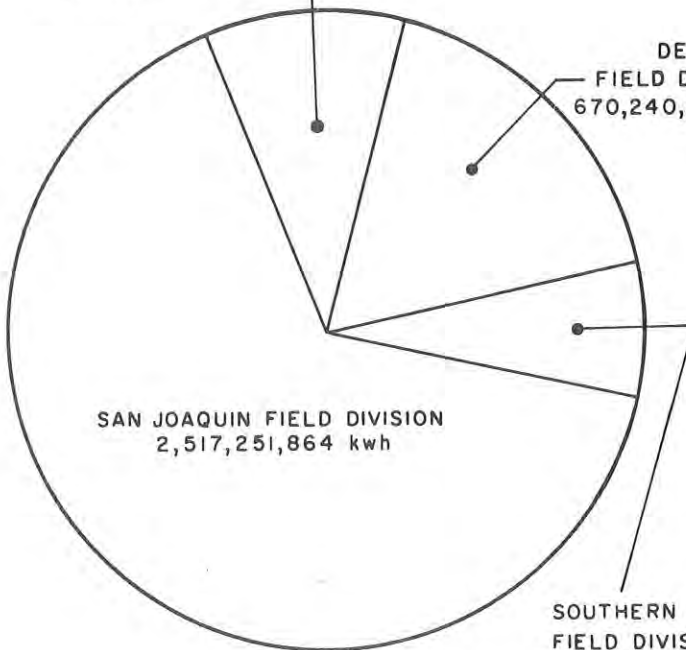
Excludes Thermalito Afterbay and includes Federal deliveries

PROJECT GROSS POWER GENERATION
1975



PROJECT POWER OPERATIONS (STATE ONLY)

SAN LUIS FIELD DIVISION
386,792,540 kwh



ENERGY USED *

PUMPING PLANTS

DELTA FIELD DIVISION

1. CORDELIA
2. DELTA
3. SOUTH BAY
4. DEL VALLE

SAN LUIS FIELD DIVISION

1. SAN LUIS
2. DOS AMIGOS

SAN JOAQUIN FIELD DIVISION

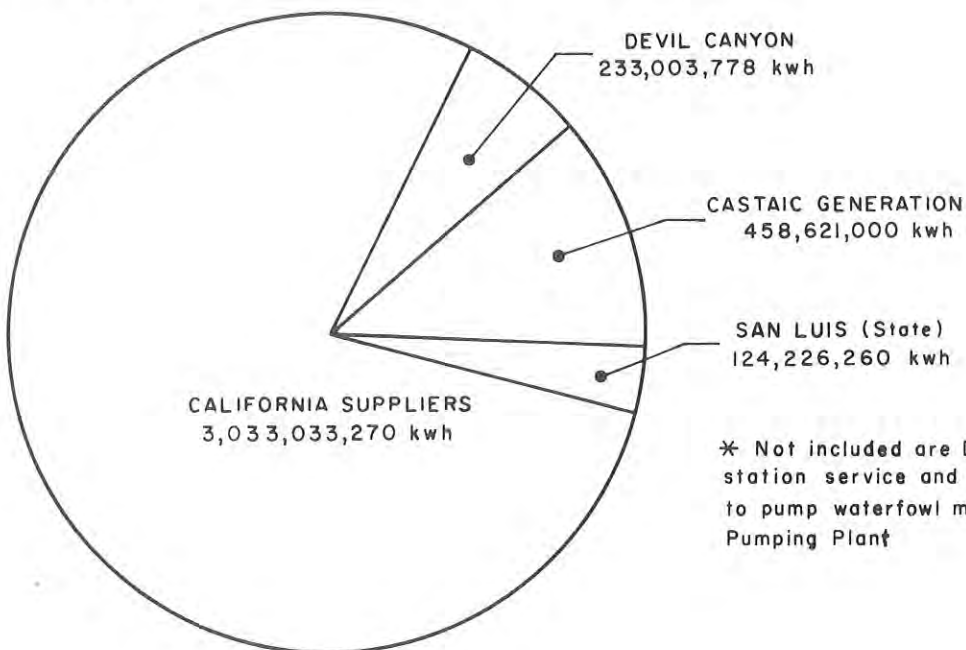
1. LAS PERILLAS
2. BADGER HILL
3. BUENA VISTA
4. WHEELER RIDGE
5. WIND GAP
6. A. D. EDMONSTON

SOUTHERN FIELD DIVISION

1. OSO
2. PEARBLOSSOM

CANADIAN ENTITLEMENT
0 kwh

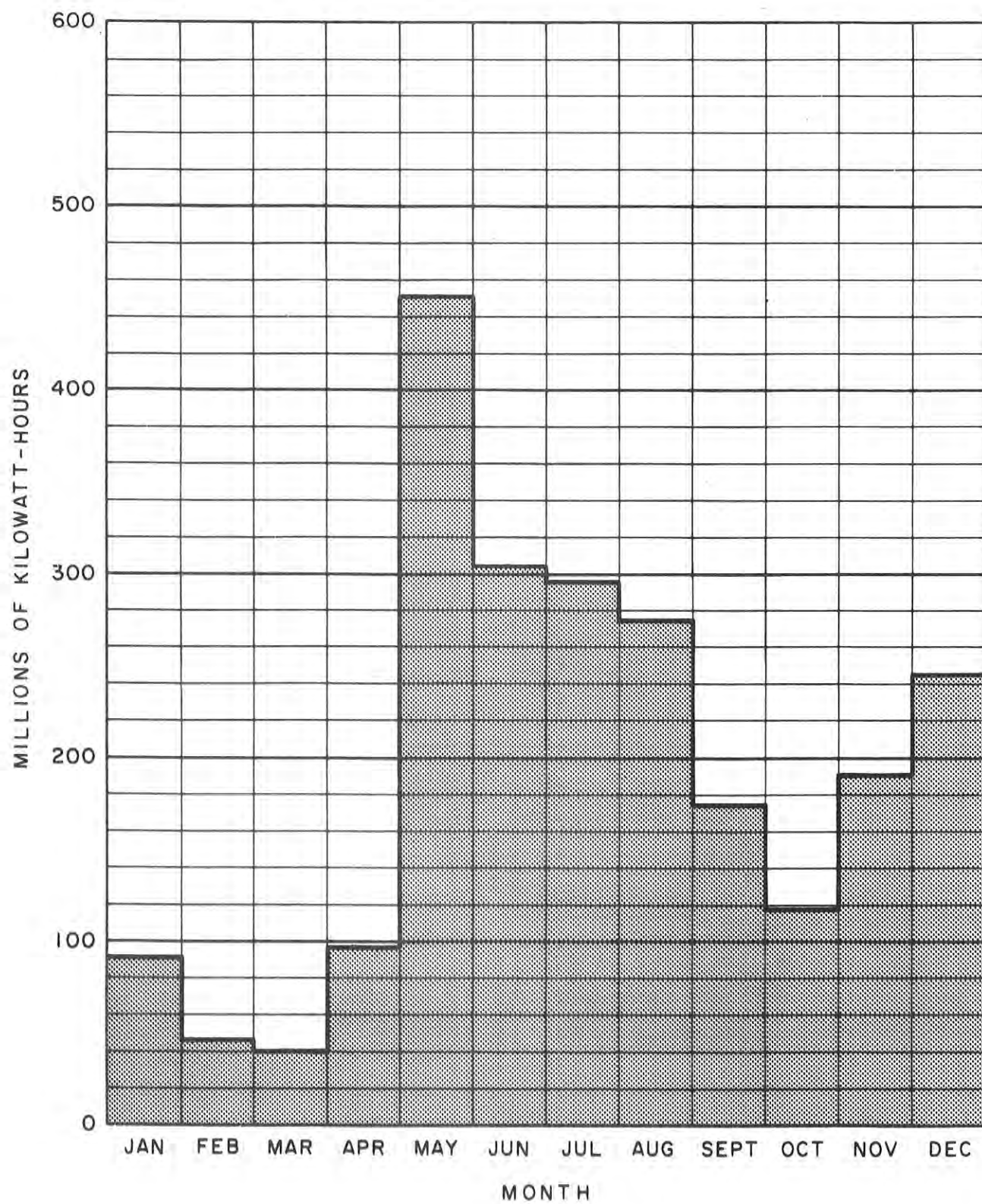
NORTHWEST DUMP
0 kwh



ENERGY SOURCES

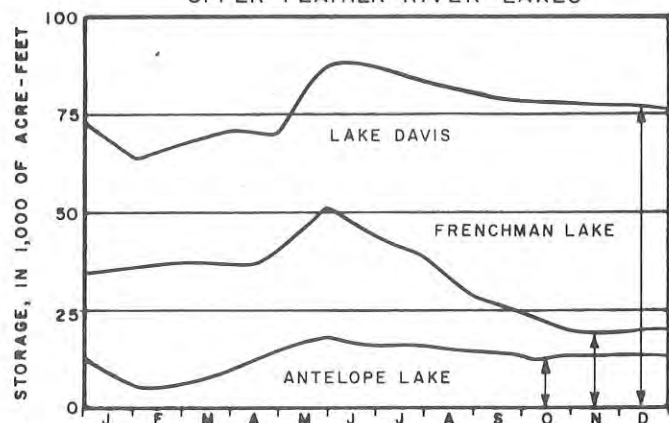
* Not included are Devil Canyon Powerplant station service and states share of power to pump waterfowl mitigation water at Tracy Pumping Plant

GROSS GENERATION AT HYATT AND THERMALITO POWERPLANTS 1975

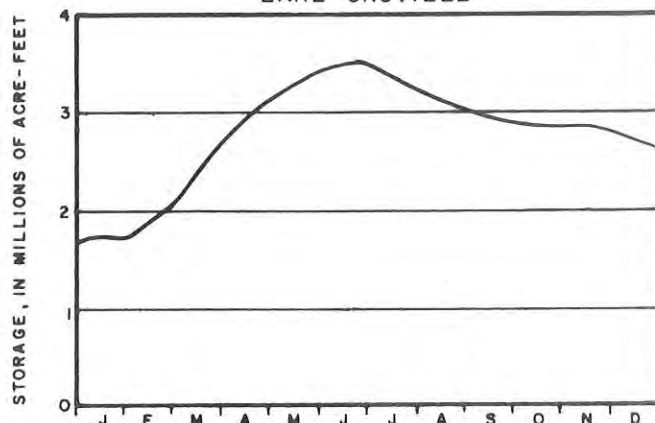


PROJECT RESERVOIRS 1975

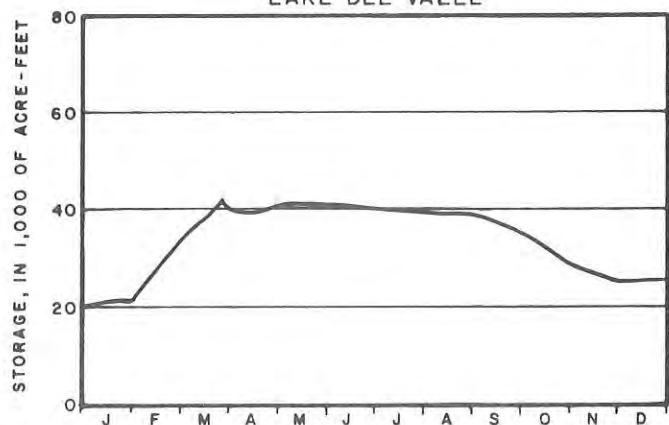
UPPER FEATHER RIVER LAKES



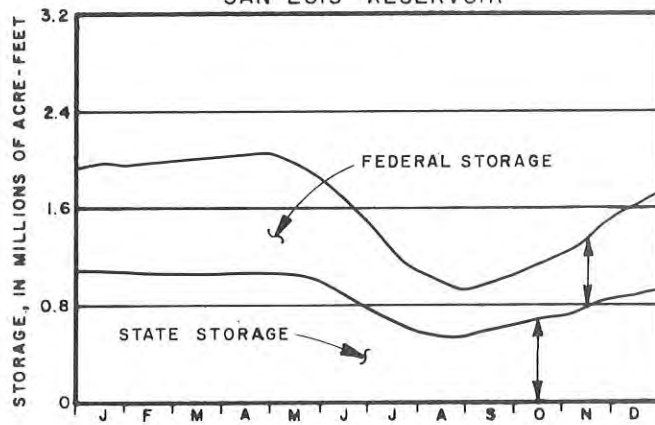
LAKE OROVILLE



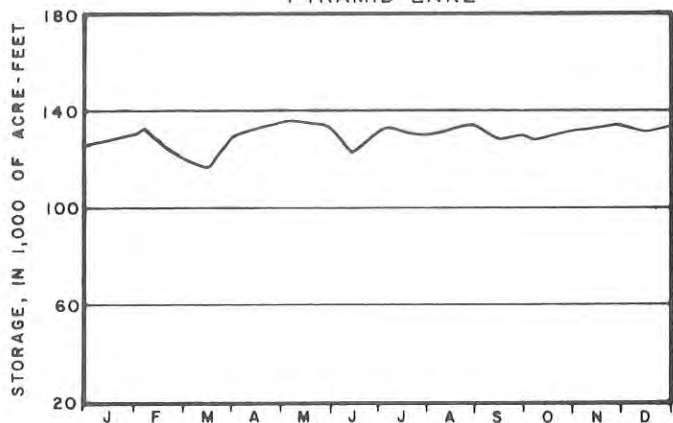
LAKE DEL VALLE



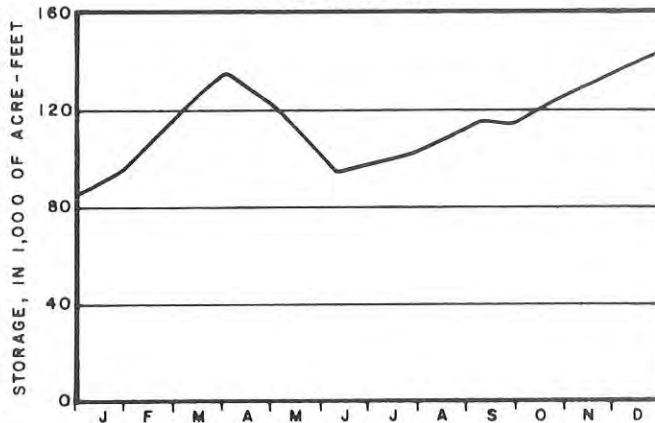
SAN LUIS RESERVOIR



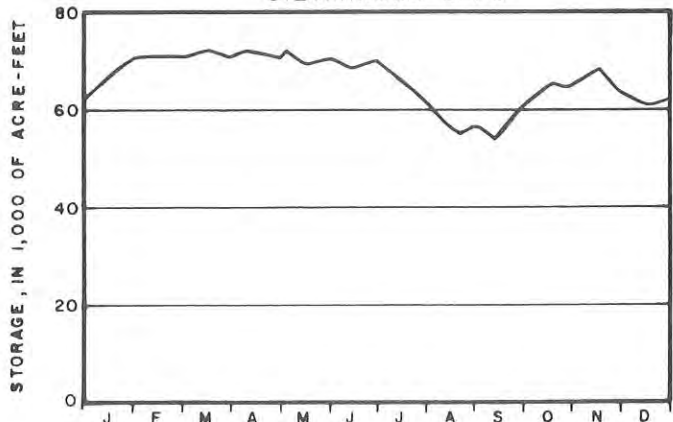
PYRAMID LAKE



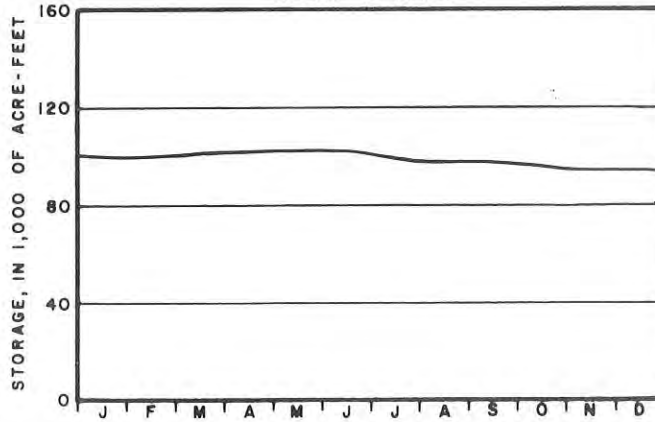
CASTAIC LAKE



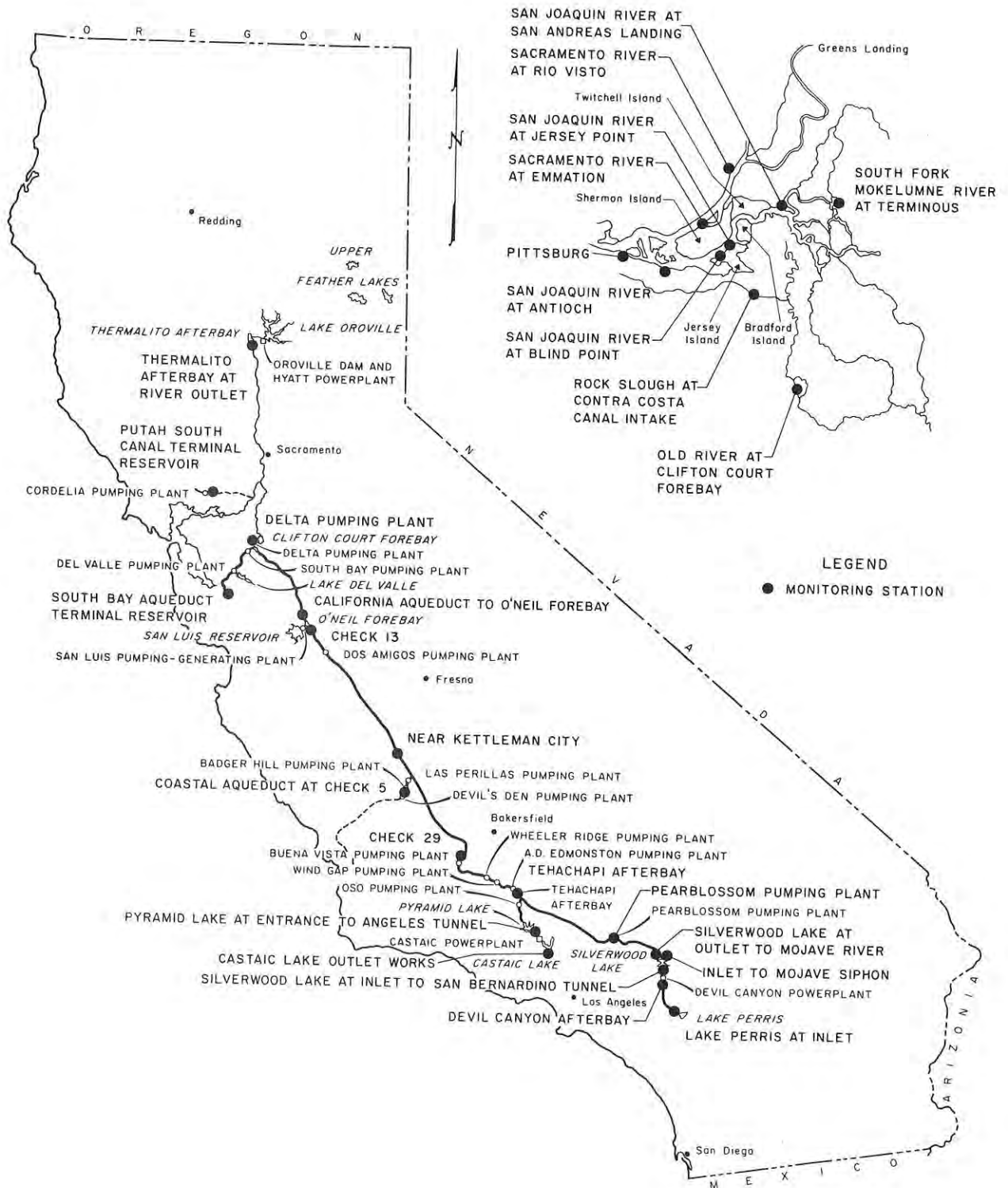
SILVERWOOD LAKE



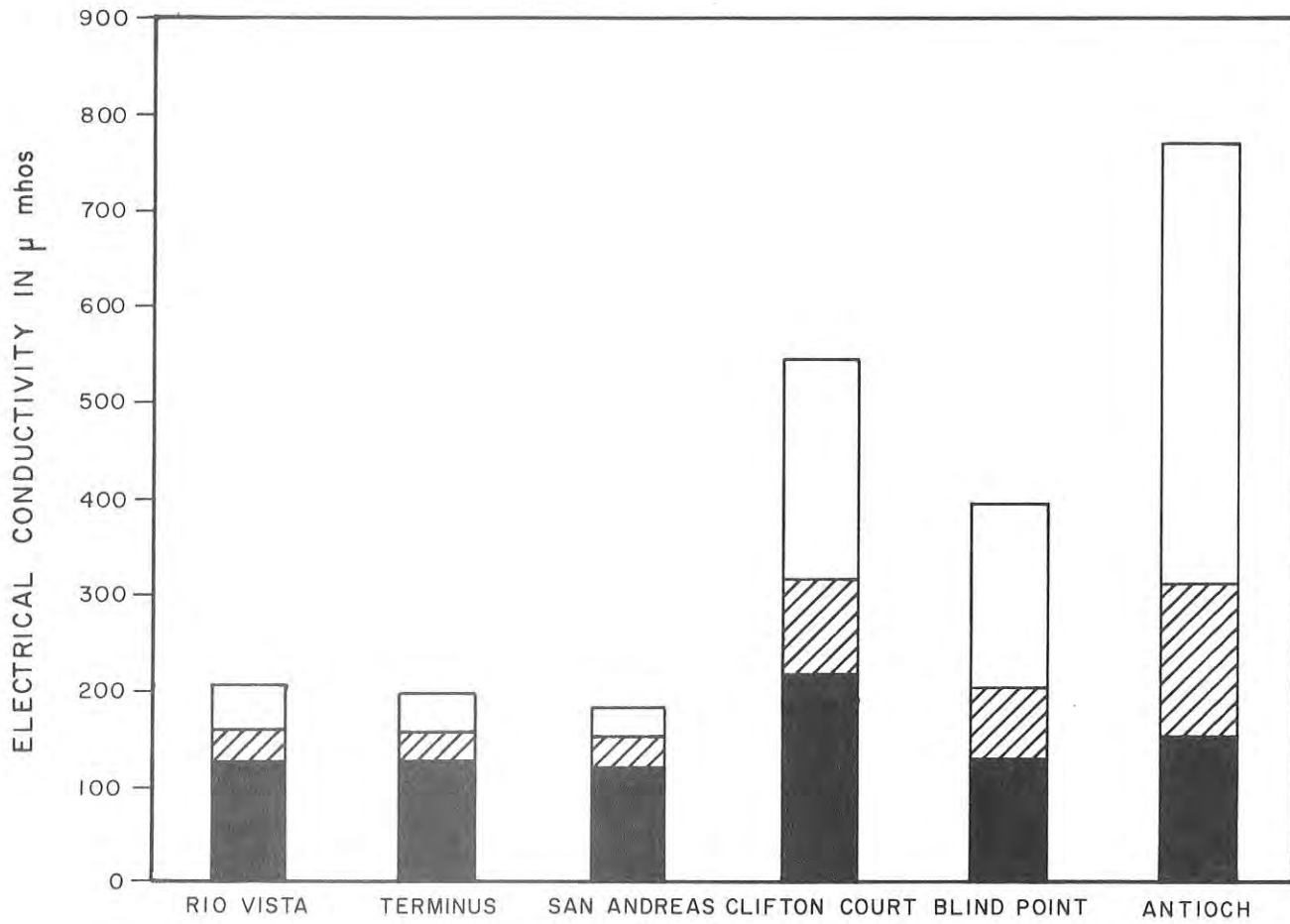
LAKE PERRIS



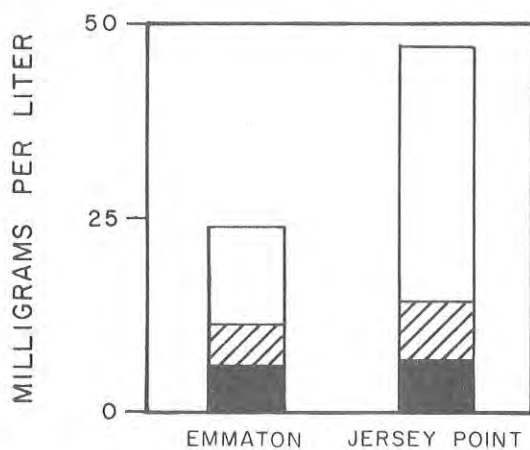
WATER QUALITY MONITORING STATIONS



14 DAY MEAN ELECTRICAL CONDUCTIVITY FOR 1975 SELECTED DELTA STATIONS

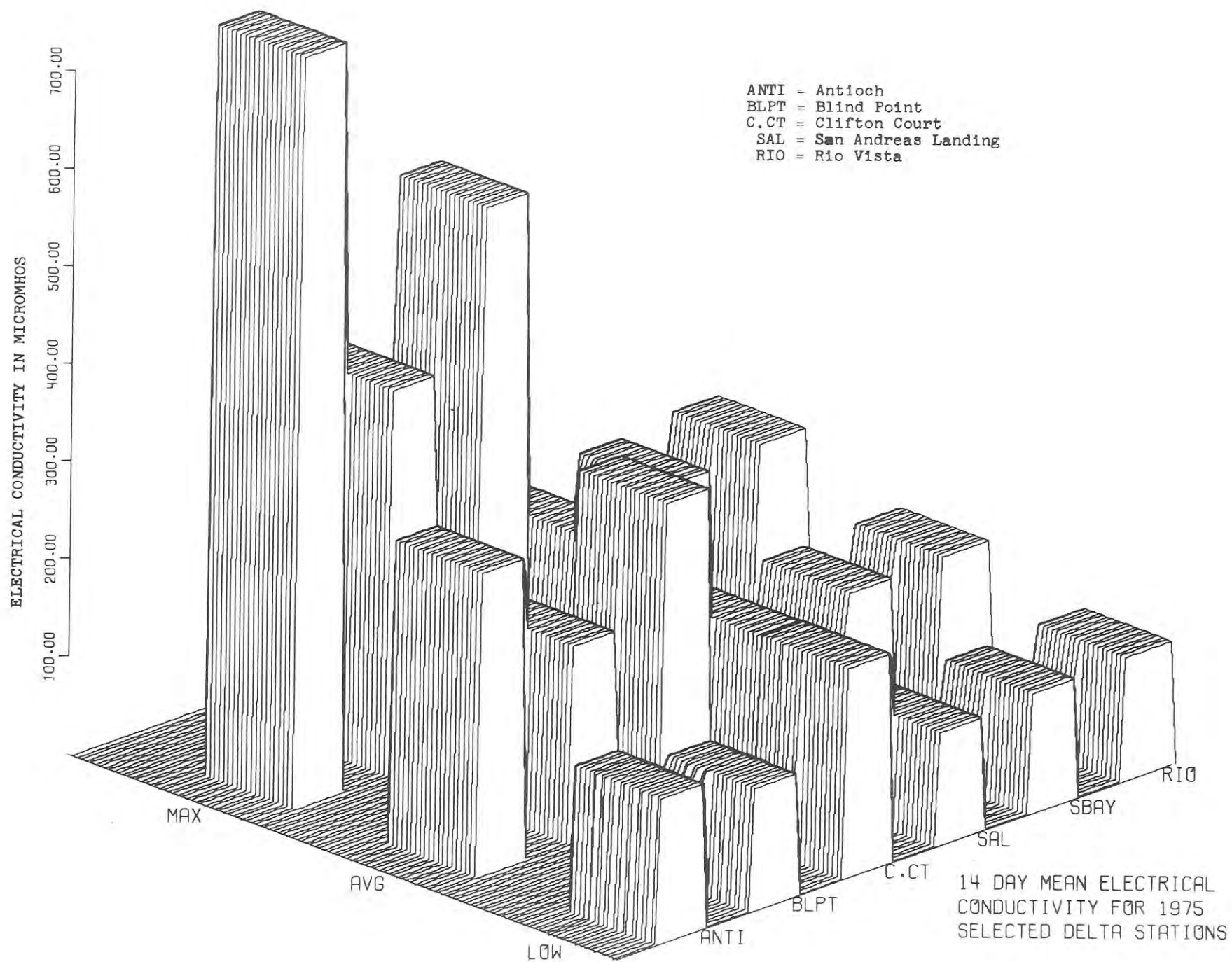


10 DAY CHLORIDE CONCENTRATIONS



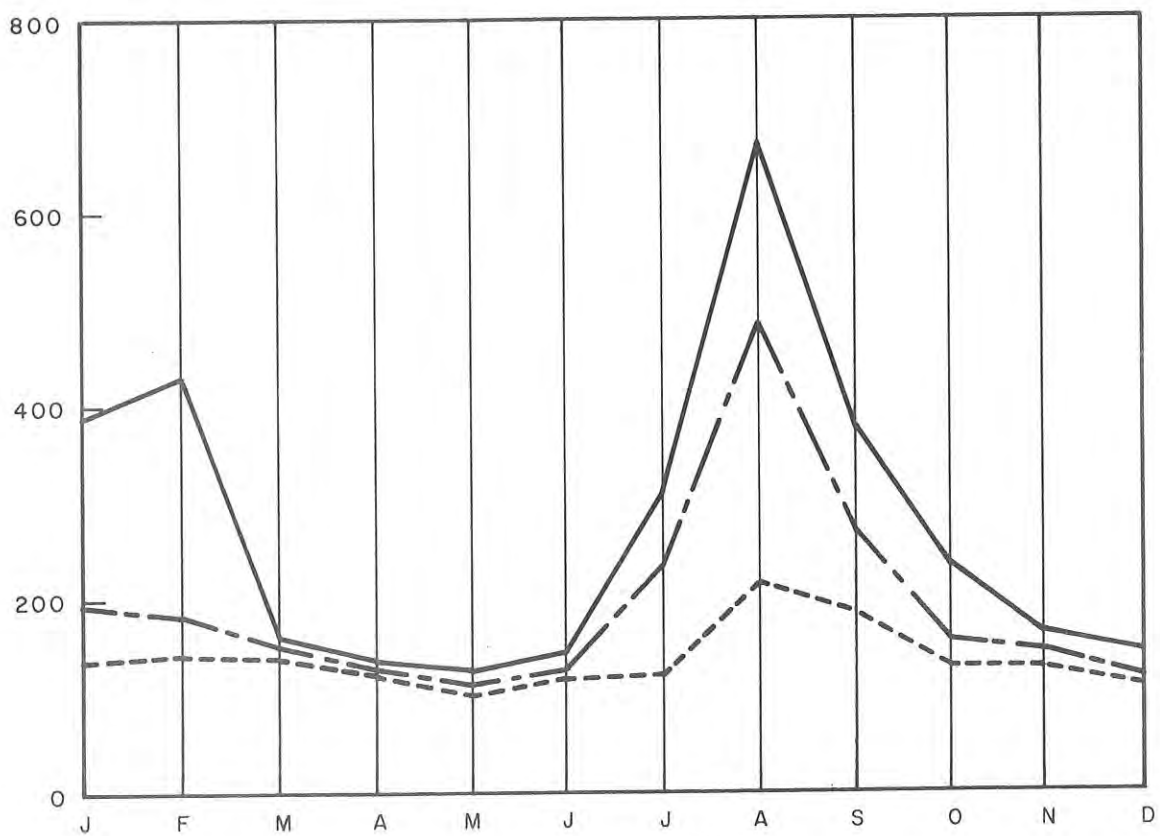
LEGEND

- = MAXIMUM MONTHLY MEAN FOR 1975
- = AVERAGE MONTHLY MEAN FOR 1975
- = MINIMUM MONTHLY MEAN FOR 1975

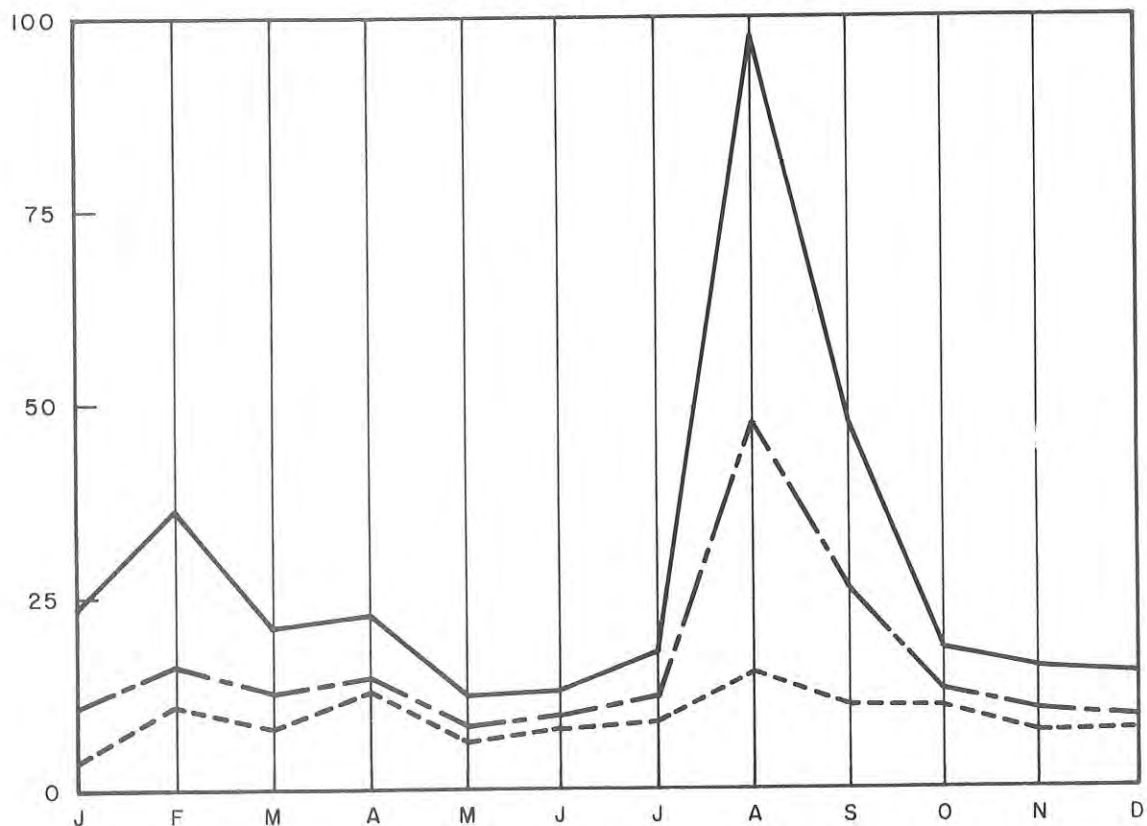


MEAN DAILY
TOTAL DISSOLVED SOLIDS AT ANTIOCH FOR 1975
(EXPRESSED IN mg/L)

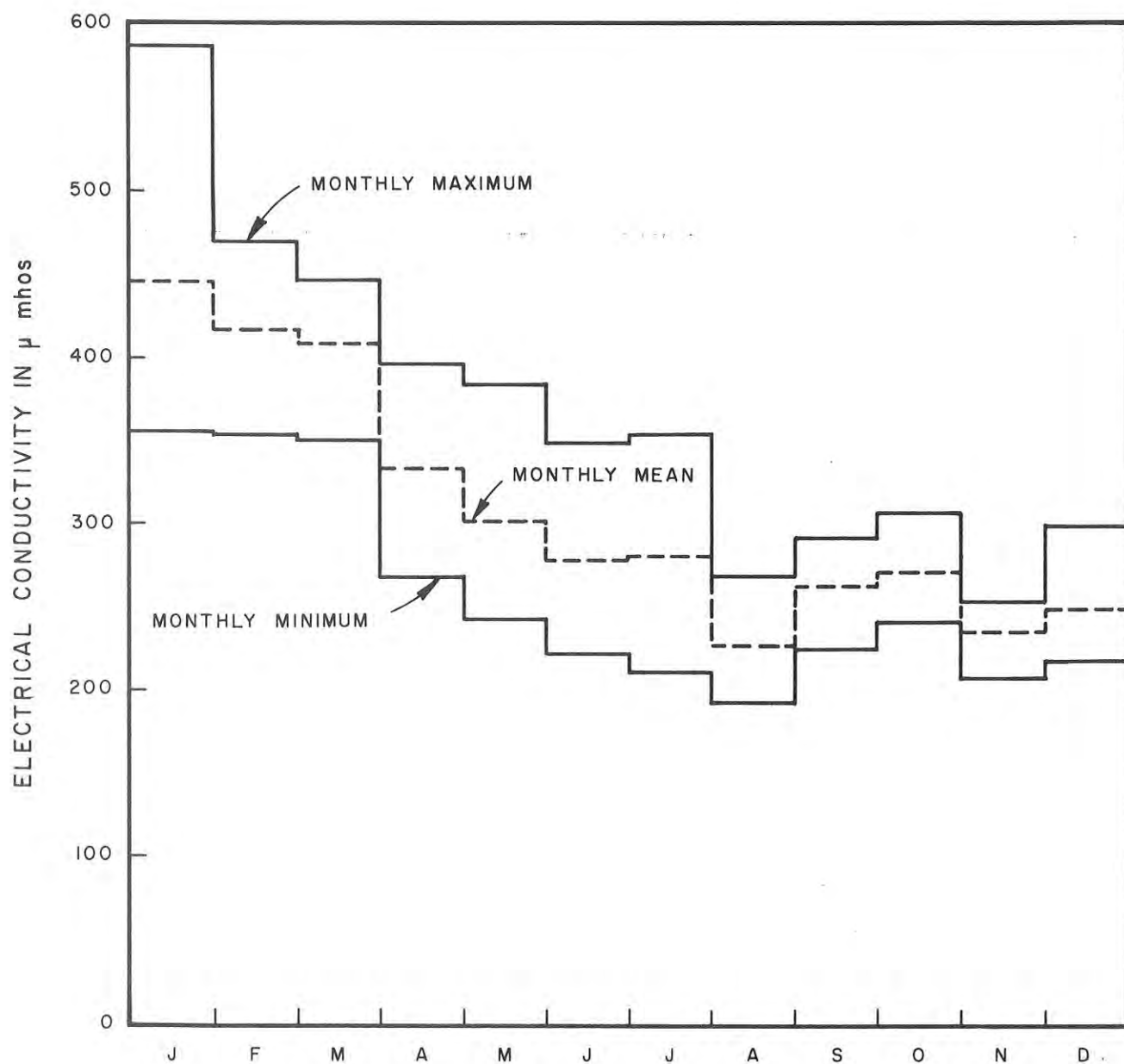
LEGEND - ——— MAXIMUM VALUE - - - - MINIMUM VALUE — · — AVERAGE MONTHLY VALUES



MEAN DAILY
CHLORIDE CONCENTRATIONS AT BLIND POINT FOR 1975
(EXPRESSED IN mg/L)



CLIFTON COURT FOREBAY
MEAN DAILY
ELECTRICAL CONDUCTIVITY VALUES
1975

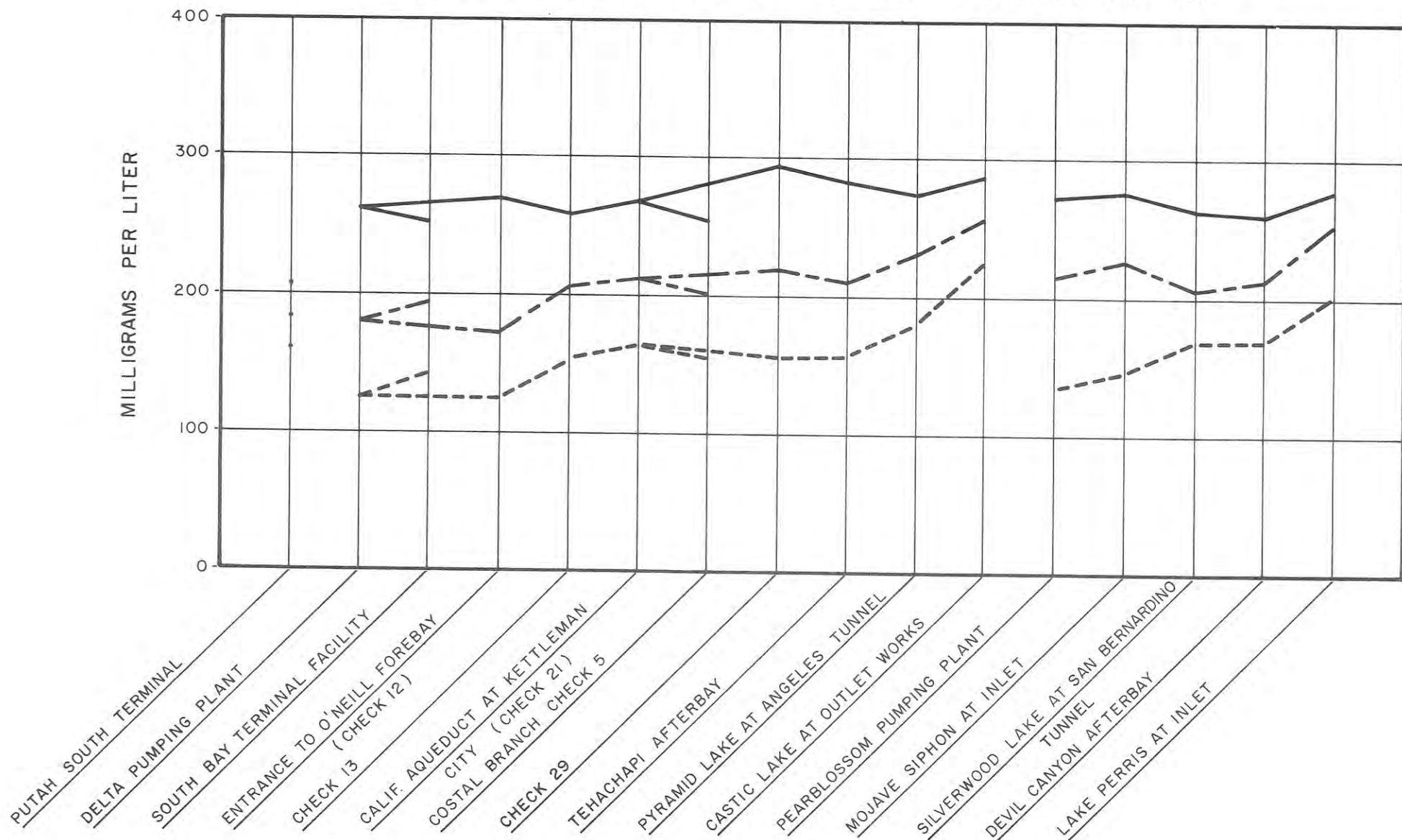


TOTAL DISSOLVED SOLID CONCENTRATIONS AT STATE WATER PROJECT SAMPLING STATIONS

1975

ARTICLE 19 OBJECTIVE: MONTHLY AVERAGE TDS LESS THAN 440 MILLIGRAMS PER LITER

LEGEND — MAXIMUM VALUE --- MINIMUM VALUE - - - ANNUAL AVERAGE VALUE





PROJECT DELIVERIES

WATER DELIVERIES*
(in acre-feet)

AGENCY	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	TOTALS
OROVILLE FIELD DIVISION															
Last Chance Creek W.D.	9,383	9,511	11,590	10,079	13,018	8,360	13,563	10,137	13,855	10,119	14,432	12,971	16,090	18,602	172,033
Pumas County F.C. & W.C.D.									70	64	505	679	648	405	2,371
County of Butte										192	186	53	127	253	811
Thermalito I.D.													393	413	806
DELTA FIELD DIVISION															
Napa County F.C. & W.C.D.							1,214	2,087	3,018	2,521	3,647	3,792	4,870	6,840	29,189
Alameda County W.D. 1/	8,412	10,914	19,236	16,407	14,804	12,682	24,817	6,818	20,607	11,652	27,786	7,900	1,433	8,725	192,455
Alameda County F.C. & W.C.D., Zone 7 1/	494	1,731	1,673	2,005	5,511	4,780	6,133	6,035	9,249	14,777	14,141	13,041	14,416	16,320	111,506
Pleasanton Township W.D.										874					874
Santa Clara Valley W.D.				15,014	34,538	39,101	70,105	52,264	80,311	87,606	100,266	91,081	90,934	106,470	777,690
Oak Flat W.D.							3,084	3,016	5,911	7,212	8,166	4,227	6,942	7,152	45,710
Mustang W.D.									1,175	1,436	1,642	0			4,256
Tracy Golf and Country Club														0	11
SAN LUIS FIELD DIVISION															
Department of Parks and Recreation											15	15	10	19	59
Federal Customers						1,100	185,393	290,761	468,951	633,269	846,687	845,774	1,121,747	1,361,573	5,755,255
SAN JOAQUIN FIELD DIVISION															
Tulare Lake Basin W.S.D.							25,100	7,081	0	115,826	252,542	111,552	137,978	214,706	864,785
Empire West Side I.D.							1,978	56	3,942	5,990	5,795	5,814	4,539	6,448	34,562
County of Kings							900	100	0	3,700	1,400	1,500	1,500	1,600	10,700
Hacienda W.D.								2,842	9,578	6,659	5,851	8,500	5,272	7,517	46,219
Kern County W.A.							127,384	141,265	204,634	360,151	490,781	505,243	646,433	821,640	3,297,531
Dudley Ridge W.D.							26,360	31,375	40,407	41,053	42,443	35,249	66,781	81,110	364,778
Devil's Den W.D.							7,382	9,970	11,739	12,490	13,905	13,522	13,828	18,195	101,031
J. G. Boswell Company										7,113	25,542	4,358	2,500	0	39,513
Buena Vista W.S.D.										8,241	19,250	5,945	7,840	6,797	48,073
Green Valley W.D.													1,741	2,217	3,958
Federal, USBR (U.S. Fish & Wildlife Serv.)														11,700	11,700
SOUTHERN FIELD DIVISION															
Antelope Valley-East Kern W.A.											53	20	1,259	8,068	9,400
Metropolitan W.D. of So. California											71,938	159,883	277,715	526,958	1,036,494
Little Rock Creek I.D.											338	370	467	876	2,051
Mojave W.A.											55	0	14	0	69
Desert W.A.													9,000	10,000	30,000
Coachella Valley County W.D.												5,800	6,400	7,000	19,200
Crestline-Lake Arrowhead W.A.											464	461	627	825	2,377
San Geronimo Pass W.A.														0	0
San Gabriel Valley M.W.D.													612	5,450	6,062
San Bernardino Valley M.W.D.											1,275	32,426	16,605	13,865	64,171
Department of Parks and Recreation													44	70	114
Piru Creek Fish Enhancement													1,362	1,553	2,915

* Does not include Thermalito Afterbay deliveries of prior water right entitlements.
1 Includes regulated delivery of local supply.



SUMMARY OF
CALIFORNIA AQUEDUCT
OPERATION

SUMMARY OF CALIFORNIA AQUEDUCT OPERATION
1975

Description	January	February	March	April	May	June
DELTA FIELD DIVISION						
North Bay Aqueduct						
Pumped at Cordelia Pumping Plant	664	565	658	714	705	373
Storage Change	0	3	0	3	-9	-4
Operational Losses (-), Gains (+)	0	0	0	0	0	0
Delivered to Napa Co. FC&WCD	664	562	658	711	714	377
California Aqueduct						
Pumped at Delta Pumping Plant	166,859	135,353	136,998	117,508	93,428	12,292
South Bay Diversion (So. Bay P.P.)	9,533	10,177	3,500	4,260	11,174	12,506
Storage Change	-98	-34	147	-337	339	-2,531
Operational Losses (-), Gains (+)	-158	-162	-330	-419	-610	-719
Delivered to Contracting Agencies	49	79	11	767	1,803	1,387
Outflow at Check 12	157,217	124,969	133,010	12,399	79,502	211
South Bay Aqueduct						
Pumped at South Bay P.P.	9,533	10,177	3,500	4,260	11,174	12,506
Inflow from Lake Del Valle	0	0	3,842	2,838	0	0
Storage Change	0	0	0	0	0	0
Operational Losses (-), Gains (+)	-8	-79	-115	-41	-10	-24
Outflow, Del Valle Pumping Plant	0	4,247	325	0	0	0
Delivered to Contracting Agencies:						
Project Water	8,321	5,276	6,184	6,334	10,303	10,519
1/ Del Valle Inflow Exchanged and Released from Aqueduct	323	575	718	723	242	197
1/ Del Valle Stored Water Exchanged and Released from Aqueduct	881	0	0	0	619	1,766
Lake Del Valle Operation						
End of Month Storage	20,968	33,746	39,588	40,055	40,055	39,786
Storage Change	390	12,778	5,842	467	0	-269
SAN LUIS FIELD DIVISION						
O'Neill Forebay Operation						
End of Month Storage	46,862	41,171	44,507	39,099	48,865	43,307
Storage Change	-1,104	-5,691	3,336	-5,408	9,766	-5,558
2/ Inflow, California Aqueduct	157,217	124,969	133,010	112,399	79,502	211
Inflow, O'Neill P-G Plant	109,578	176,715	150,436	106,634	32,106	3,312
Inflow, San Luis P-G Plant	0	512	0	101	160,353	403,785
Delivered to Federal Customers	300	361	607	1,073	1,396	1,332
Outflow, O'Neill P-G Plant	0	0	0	0	10,599	13,257
Outflow, San Luis P-G Plant	2,585	64,048	40	7,230	0	0
Operational Losses (-), Gains (+)	-2,367	-1,517	-3,868	-2,672	-4,068	-11,383
Outflow, Dos Amigos P.P.	262,647	241,861	275,595	213,566	246,132	386,894
San Luis Reservoir Operation						
End of Month Storage	1,936,801	1,997,799	1,998,937	2,003,109	1,841,200	1,443,664
Storage Change	-1,251	60,998	1,138	4,172	-161,909	-397,536
Inflow, San Luis P-G Plant	2,585	64,048	40	7,230	0	0
Operational Losses (-), Gains (+)	-3,836	-2,538	1,098	-2,957	-1,556	6,249
Outflow, San Luis P-G Plant	0	512	0	101	160,353	403,785
California Aqueduct (Pools 14 thru 21)						
Inflow, Dos Amigos P.P.	262,647	241,961	275,595	213,566	246,132	386,894
Storage Change	-343	-244	1,574	-1,190	238	1,047
Delivered to Federal Customers	128,678	117,902	120,873	116,401	122,176	179,996
Operational Losses (-), Gains (+)	-2,634	-2,695	-2,454	-2,554	-5,061	2,322
3/ Outflow, Check 21	131,678	121,608	150,694	95,801	118,657	208,173

1/ Includes only water delivered from aqueduct.

2/ State pumped water at Delta P.P. for Federal as follows: II-1
Jan. - 20,885 ac-ft.

3/ Includes federal water for Kern National Wild Life Refuge as follows:
Sept. - 2,222 ac-ft. Oct. 0 5,371 ac-ft. Nov. - 4,107 ac-ft.

SUMMARY OF CALIFORNIA AQUEDUCT OPERATION
1975

July	August	September	October	November	December	Total	Description
<u>DELTA FIELD DIVISION</u>							
North Bay Aqueduct							
160	463	577	546	702	723	6,850	Pumped at Cordelia Pumping Plant
12	-7	2	-3	3	10	10	Storage Change
0	0	0	0	0	0	0	Operational Losses (-), Gains (+)
148	470	575	549	699	713	6,840	Delivered to Napa Co. FC&WCD
California Aqueduct							
16,495	253,545	233,444	237,631	245,118	238,101	1,886,772	Pumped at Delta Pumping Plant
14,589	13,860	9,631	5,318	9,109	12,161	115,818	South Bay Diversion (So. Bay P.P.)
-983	3,889	-207	0	52	-43	194	Storage Change
-693	-616	-563	-355	-286	-205	-5,116	Operational Losses (-), Gains (+)
1,496	1,209	303	48	0	0	7,152	Delivered to Contracting Agencies
700	233,971	223,154	231,910	235,671	225,778	1,758,492	Outflow at Check 12
South Bay Aqueduct							
14,589	13,860	9,631	5,318	9,109	12,161	115,818	Pumped at South Bay P.P.
0	0	3,037	6,170	3,302	0	19,189	Inflow from Lake Del Valle
0	0	0	0	0	0	0	Storage Change
-105	-55	-58	-27	-11	-10	-543	Operational Losses (-), Gains (+)
0	0	0	0	0	0	4,572	Outflow, Del Valle Pumping Plant
11,039	10,826	10,762	11,461	11,211	9,838	112,074	Delivered to Contracting Agencies:
80	3	0	0	64	96	3,021	Project Water
3,365	2,976	1,848	0	1,125	2,217	14,797	Del Valle Inflow Exchanged and 1/ Released from Aqueduct
39,441	39,000	35,191	28,323	24,997	25,017	4,439	Del Valle Stored Water Exchanged 1/ and Released from Aqueduct
-345	-441	-3,809	-6,868	-3,326	20		Lake Del Valle Operation
							End of Month Storage
							Storage Change
<u>SAN LUIS FIELD DIVISION</u>							
O'Neill Forebay Operation							
43,438	49,710	49,977	53,192	40,254	51,849		End of Month Storage
131	6,272	267	3,215	-12,938	11,595	3,883	Storage Change
700	233,971	223,154	231,910	235,671	225,778	1,758,492	Inflow, California Aqueduct 2/
28,997	47,511	90,037	136,562	225,243	249,664	1,356,795	Inflow, O'Neill P-G Plant
406,581	138,094	0	248	0	0	1,109,674	Inflow, San Luis P-G Plant
1,324	971	375	233	177	114	8,262	Delivered to Federal Customers
4,378	4,562	1,216	0	0	0	34,012	Outflow, O'Neill P-G Plant
24	0	137,166	209,312	329,516	224,736	974,657	Outflow, San Luis P-G Plant
-13,162	-1,783	9,189	13,249	12,279	5,934	-170	Operational Losses (-), Gains (+)
417,259	405,988	183,356	169,210	156,438	244,931	3,203,977	Outflow, Dos Amigos P.P.
San Luis Reservoir Operation							
1,046,356	907,172	1,031,560	1,219,251	1,520,187	1,722,575		End of Month Storage
-397,308	-139,184	124,388	187,691	300,936	202,388	-215,477	Storage Change
24	0	137,166	209,312	329,516	224,736	974,657	Inflow, San Luis P-G Plant
9,249	-1,090	-12,778	-21,373	-28,580	-22,348	-80,460	Operational Losses (-), Gains (+)
406,581	138,094	0	248	0	0	1,109,674	Outflow, San Luis P-G Plant
California Aqueduct (Pools 14 thru 21)							
417,259	405,988	183,356	169,210	156,438	244,931	3,203,977	Inflow, Dos Amigos P.P.
-1,350	1,418	-1,099	1,205	-654	-716	-114	Storage Change
184,691	156,713	53,670	36,423	40,690	95,098	1,353,311	Delivered to Federal Customers
1,611	2,757	-3,671	-5,688	-4,280	-2,074	-24,421	Operational Losses (-), Gains (+)
235,529	250,614	127,114	125,894	112,122	148,475	1,826,359	Outflow, Check 21

SUMMARY OF CALIFORNIA AQUEDUCT OPERATION
1975

Description	January	February	March	April	May	June
<u>SAN JOAQUIN FIELD DIVISION</u>						
California Aqueduct, Check 21 to Buena Vista Pumping Plant						
Inflow, Check 21	131,678	121,608	150,694	95,801	118,657	208,173
1/ Delivered to Contracting Agencies	53,144	41,298	60,521	63,523	64,309	81,651
Delivered for Repayment of Preconsolidation Water	1,465	2,062	410	410	370	480
Coastal Br. Diversion (Las Per. P.P.)	7,530	11,474	12,466	12,595	17,686	19,641
Storage Change	-239	-215	494	-479	-57	476
Operational Losses (-), Gains (+)	6,438	6,869	6,523	8,036	5,906	2,483
Outflow, Buena Vista P.P.	76,216	73,858	83,326	27,788	42,255	108,408
California Aqueduct, Buena Vista P.P. to Wheeler Ridge P.P.						
Inflow, Buena Vista P.P.	76,216	73,858	83,326	27,788	42,255	108,408
Delivered to Contracting Agencies	9,475	19,183	18,083	10,756	16,768	27,937
Storage Change	-38	201	-25	-156	-137	222
Operational Losses (-), Gains (+)	-491	1,818	-2,022	-530	-1,639	-946
Outflow, Wheeler Ridge P.P.	66,288	56,292	63,246	16,658	23,985	79,303
California Aqueduct, Wheeler Ridge P.P. to Wind Gap P.P.						
Inflow, Wheeler Ridge P.P.	66,288	56,292	63,246	16,658	23,985	79,303
Delivered to Contracting Agencies	2,394	1,408	1,606	2,911	4,250	5,094
Storage Change	-67	-22	18	23	-1	-33
Operational Losses (-), Gains (+)	-344	-387	-205	283	383	616
Outflow, Wind Gap P.P.	63,617	54,519	61,417	14,007	20,119	74,858
California Aqueduct, Wind Gap P.P. to A. D. Edmonston P.P.						
Inflow, Wind Gap P.P.	63,617	54,519	61,417	14,007	20,119	74,858
Delivered to Contracting Agencies	398	1,082	620	595	1,450	1,686
Storage Change	-5	74	21	-86	118	-125
Operational Losses (-), Gains (+)	86	704	605	258	-186	386
Outflow, A. D. Edmonston P.P.	63,310	54,067	61,381	13,756	18,365	73,683
Coastal Branch, California Aqueduct						
Inflow, Las Perillas P.P.	7,530	11,474	12,466	12,595	17,686	19,641
Delivered to Contracting Agencies	6,982	11,022	11,912	12,057	16,523	18,772
Storage Change	-21	32	-13	-18	17	-10
Operational Losses (-), Gains (+)	-569	-420	-567	-556	-1,146	-879
<u>SOUTHERN FIELD DIVISION</u>						
California Aqueduct, A. D. Edmonston P.P. through Tehachapi Afterbay						
Inflow, A. D. Edmonston P.P.	63,310	54,067	61,381	13,756	18,365	73,683
Storage Change	4	-1	8	1	2	-4
Operational Losses (-), Gains (+)	21	10	14	-3	-10	-5
California Aqueduct, Tehachapi Afterbay to Pearblossom P.P.						
Inflow	13,350	3,775	5,151	7,555	14,868	29,709
Delivered to Contracting Agencies	175	504	264	310	933	966
Storage Change	320	-409	337	66	-262	220
Operational Losses (-), Gains (+)	1,445	700	983	-319	-660	-353
Outflow, Pearblossom P.P.	14,300	4,380	5,533	6,860	13,537	28,170

1/ Includes deliveries to Federal - Kern National Wildlife Refuge as follows:
Sept. - 2,222; Oct. - 5,371; Nov. - 4,107

SUMMARY OF CALIFORNIA AQUEDUCT OPERATION
1975

July	August	September	October	November	December	Total	Description
<u>SAN JOAQUIN FIELD DIVISION</u>							
California Aqueduct, Check 21 to Buena Vista Pumping Plant							
235,529	250,614	127,114	125,894	112,122	148,475	1,826,359	Inflow, Check 21
110,827	124,113	54,734	42,898	27,368	64,618	789,004	Delivered to Contracting Agencies
500	500	200	200	200	0	6,797	Delivered for Repayment of Preconsolidation Water
25,963	23,690	5,904	5,560	3,590	6,507	152,606	Coastal Br. Diversion (Las Per. P.P.)
-502	481	-188	-217	125	-204	-525	Storage Change
2,424	2,637	4,153	4,185	3,996	3,616	57,266	Operational Losses (-), Gains (+)
101,165	104,467	70,617	81,638	84,835	81,170	935,743	Outflow, Buena Vista P.P.
California Aqueduct, Buena Vista P.P. to Wheeler Ridge P.P.							
101,165	104,467	70,617	81,638	84,835	81,170	935,743	Inflow, Buena Vista P.P.
31,090	26,819	8,930	5,245	3,225	3,344	180,855	Delivered to Contracting Agencies
113	-114	-152	-5	123	26	58	Storage Change
-1,901	-471	40	592	-338	-633	-6,521	Operational Losses (-), Gains (+)
68,061	77,291	61,879	76,990	81,149	77,167	748,309	Outflow, Wheeler Ridge P.P.
California Aqueduct, Wheeler Ridge P.P. to Wind Gap P.P.							
68,061	77,291	61,879	76,990	81,149	77,167	748,309	Inflow, Wheeler Ridge P.P.
6,456	4,260	2,886	1,588	967	1,600	35,420	Delivered to Contracting Agencies
35	-3	-24	24	-18	29	-39	Storage Change
1,179	652	416	751	1,324	856	5,524	Operational Losses (-), Gains (+)
62,749	73,686	59,433	76,129	81,524	76,394	718,452	Outflow, Wind Gap P.P.
California Aqueduct, Wind Gap P.P. A. D. Edmonston P.P.							
62,749	73,686	59,433	76,129	81,524	76,394	718,452	Inflow, Wind Gap P.P.
2,010	2,608	1,193	1,221	162	42	13,067	Delivered to Contracting Agencies
9	105	-31	-52	22	55	105	Storage Change
-70	-1,073	-615	-1,803	-1,884	-1,446	-5,038	Operational Losses (-), Gains (+)
60,660	69,900	57,656	73,157	79,456	74,851	700,242	Outflow, A. D. Edmonston P.P.
Coastal Branch, California Aqueduct							
25,963	23,690	5,904	5,560	3,590	6,507	152,606	Inflow, Las Perillas P.P.
25,213	23,115	5,907	5,561	3,165	6,558	146,787	Delivered to Contracting Agencies
4	3	10	1	-16	-3	-14	Storage Change
-746	-572	13	2	-441	48	-5,833	Operational Losses (-), Gains (+)
<u>SOUTHERN FIELD DIVISION</u>							
California Aqueduct, A.D. Edmonston P.P. through Tehachapi Afterbay							
60,660	69,900	57,656	73,157	79,456	74,851	700,242	Inflow, A. D. Edmonston P.P.
-12	21	-3	-1	3	-5	13	Storage Change
-5	7	1	15	11	9	65	Operational Losses (-), Gains (+)
California Aqueduct, Tehachapi Afterbay to Pearblossom P.P.							
14,431	15,903	18,017	21,697	25,085	29,257	198,798	Inflow
1,354	1,273	1,449	1,063	381	246	8,918	Delivered to Contracting Agencies
-127	292	-502	-400	286	-167	-346	Storage Change
-162	484	48	1,072	750	641	4,629	Operational Losses (-), Gains (+)
13,042	14,822	17,118	22,106	25,168	29,819	194,855	Outflow, Pearblossom P.P.

SUMMARY OF CALIFORNIA AQUEDUCT OPERATION
1975

Description	January	February	March	April	May	June
<u>SOUTHERN FIELD DIVISION (Cont.)</u>						
California Aqueduct, Pearblossom P.P. to Silverwood Lake						
Inflow, Pearblossom P.P.	14,300	4,380	5,533	6,860	13,537	28,170
Delivered (Exchange of natural inflow)	211	535	871	739	597	418
Storage Change	-81	111	-64	8	41	16
Operational Losses (-), Gains (+)	-111	-84	-98	-113	-209	-357
Outflow to Silverwood Lake	14,059	3,650	4,628	6,000	12,690	27,379
Silverwood Lake Operation						
End of Month Storage	70,364	70,553	70,837	70,742	70,364	70,453
Storage Change	6,967	189	284	-95	-378	89
Inflow, Project	14,059	3,650	4,628	6,000	12,690	27,379
Inflow, Natural	201	766	2,635	1,439	781	216
⁴ /Delivered to Contracting Agencies	72	45	47	30	43	77
Outflow, Natural Inflow Released or Exchanged	0	132	1,407	63	121	0
Outflow, Project Water at San Bernardino Tunnel	6,918	4,014	5,958	7,670	13,581	28,191
Operational Losses (-), Gains (+)	-303	-36	433	229	-104	762
California Aqueduct, Silverwood Lake to Lake Perris						
Inflow, San Bernardino Tunnel	6,918	4,014	5,958	7,670	13,581	28,191
Delivered to Contracting Agencies	6,691	3,749	5,483	6,251	12,075	27,982
Storage Change	-29	35	-5	2	-3	-1
Operational Losses (-), Gains (+)	0	-1	-1	-1	-2	-3
Outflow to Lake Perris	256	229	479	1,416	1,507	207
Lake Perris Operation						
End of Month Storage	99,748	99,601	100,189	101,454	101,539	100,274
Storage Change	-610	-147	588	1,265	85	-1,265
Inflow	256	229	479	1,416	1,507	207
³ /Delivered to Contracting Agencies	0	0	0	0	0	0
Operational Losses (-), Gains (+)	-866	-376	109	-151	-1,422	-1,472
Outflow	0	0	0	0	0	0
West Branch California Aqueduct Tehachapi Afterbay to Oso P.P.						
Inflow	49,977	50,303	56,236	6,197	3,485	43,973
Storage Change	14	-3	23	2	6	-14
Delivered to Contracting Agencies	0	0	0	0	0	0
Operational Losses (-), Gains (+)	64	31	44	-13	-30	-16
Outflow, Oso Pumping Plant	50,027	50,337	56,257	6,182	3,449	43,971
West Branch California Aqueduct Oso P.P. to Pyramid Lake						
Inflow, Oso P.P.	50,027	50,337	56,257	6,182	3,449	43,971
Storage Change	-1,506	110	1,674	646	-1,025	633
Delivered to Contracting Agencies	0	0	0	0	0	0
Operational Losses (-), Gains (+)	-103	-57	-103	-63	-170	-255
Outflow to Pyramid Lake	51,430	50,170	54,480	5,473	4,304	43,083

- ¹/ Of this amount, 39 ac-ft was used for testing cone valve @ outlet to Mojave River.
²/ Lake Perris negative inflow for Dec. due to different time frame in reading meters @ turnouts and Devil Canyon Powerplant.
³/ Seepage delivered to M.W.D.S.C.
⁴/ 70 acre-feet of total was delivered to Dept. of Parks and Recreation.

SUMMARY OF CALIFORNIA AQUEDUCT OPERATION
1975

July	August	September	October	November	December	Total	Description
SOUTHERN FIELD DIVISION (Cont.)							
California Aqueduct, Pearblossom P.P. to Silverwood Lake							
13,042	14,822	17,118	22,106	25,168	29,819	194,855	Inflow, Pearblossom P.P.
352	317	279	141	20	74	4,554	Delivered (Exchange of natural inflow)
-31	27	3	-10	-27	-13	-20	Storage Change
-322	-324	-250	-185	-185	-127	-2,365	Operational Losses (-), Gains (+)
12,399	14,154	16,586	21,790	24,990	29,631	187,956	Outflow to Silverwood Lake
Silverwood Lake Operation							
61,276	56,634	60,403	64,471	63,843	61,714		End of Month Storage
-9,177	-4,642	3,769	4,068	-628	-2,129	-1,683	Storage Change
12,399	14,154	16,586	21,790	24,990	29,631	187,956	Inflow, Project
29	1	9	65	26	104	6,272	Inflow, Natural
142	127	105	77	58	72	895	Delivered to Contracting Agencies
0	0	0	0	0	0	1,723	Outflow, Natural Inflow Released or Exchanged
21,935	18,521	13,022	17,386	25,438	32,635	195,269	Outflow, Project Water at San Bernardino Tunnel
472	-149	301	-324 1/	-148	843	1,976	Operational Losses (-), Gains (+)
California Aqueduct, Silverwood Lake to Lake Perris							
21,935	18,521	13,022	17,386	25,438	32,635	195,269	Inflow, San Bernardino Tunnel
21,654	18,390	12,810	17,208	24,729	32,720	189,742	Delivered to Contracting Agencies
3	-2	2	-3	1	0	0	Storage Change
-4	-4	-3	-2	-1	-1	-23	Operational Losses (-), Gains (+)
274	129	207	179	707	-86 2/	5,504	Outflow to Lake Perris
Lake Perris Operation							
98,867	97,864	96,345	95,226	94,339	93,639		End of Month Storage
-1,407	-1,003	-1,519	-1,119	-887	-700	-6,719	Storage Change
274	129	207	179	707	-86 2/	5,504	Inflow
0	0	0	0	106	145	251	Delivered to Contracting Agencies
-1,681	-1,132	-1,726	-1,298	-1,488	-469	-11,972	Operational Losses (-), Gains (+)
0	0	0	0	0	0	0	Outflow
West Branch California Aqueduct Tehachapi Afterbay to Oso P.P.							
46,236	53,983	39,643	51,476	54,379	45,608	501,496	Inflow
-38	65	-8	-4	10	-16	37	Storage Change
0	0	0	0	0	0	0	Delivered to Contracting Agencies
-14	21	2	48	33	29	199	Operational Losses (-), Gains (+)
46,260	53,939	39,653	51,528	54,402	45,653	501,658	Outflow, Oso Pumping Plant
West Branch California Aqueduct Oso P.P. to Pyramid Lake							
46,260	53,939	39,653	51,528	54,402	45,653	501,658	Inflow, Oso P.P.
-336	577	-662	-1,407	593	-189	-892	Storage Change
0	26	0	0	0	0	26	Delivered to Contracting Agencies
-258	-302	-277	-176	-161	-115	-2,040	Operational Losses (-), Gains (+)
46,338	53,034	40,038	52,759	53,648	45,727	500,484	Outflow to Pyramid Lake

SUMMARY OF CALIFORNIA AQUEDUCT OPERATION
1975

Description	January	February	March	April	May	June
<u>SOUTHERN FIELD DIVISION (Cont.)</u>						
Pyramid Lake Operation						
End of Month Storage	162,772	149,100	161,146	167,332	167,716	162,521
Storage Change	4,847	-13,672	12,046	6,186	384	-5,195
Inflow, Project	51,430	50,170	54,480	5,473	4,304	43,083
Inflow, Natural, from Local Runoff	602	1,036	7,379	2,270	1,345	442
Inflow, Pumpback from Elderb. Forebay	993	1,227	309	0	0	17,576
1/Operational Losses (-), Gains (+)	-1,867	-1,465	-2,036	-298	-353	-2,342
Outflow, Angeles Tunnel	44,767	64,224	45,809	0	0	60,300
Outflow, Natural Inflow Released to Piru Creek	1,544	416	2,277	1,259	4,912	3,496
2/Outflow, Project Water for Fish Enhancement	0	0	0	0	0	158
Elderberry Forebay Operation						
End of Month Storage	19,421	23,538	14,977	7,602	7,602	19,805
Storage Change	-4,117	4,117	-8,561	-7,375	0	12,203
Inflow, Project	44,767	64,224	46,472	0	0	59,637
Inflow, Natural	69	296	1,648	858	215	31
Operational Losses (-), Gains (+)	-132	-360	-2,454	-858	0	-407
Outflow, Pumpback to Pyramid Lake	993	1,227	309	0	0	17,576
Outflow, Project Water Released to Castaic Lake	47,759	58,520	52,270	6,517	0	29,451
Outflow, Natural Inflow Released to Castaic Lake	69	296	1,648	858	215	31
Castaic Lake Operation						
End of Month Storage	160,306	194,718	222,413	202,756	169,455	163,997
Storage Change	15,932	34,412	27,695	-19,657	-33,301	-5,458
Inflow, Project	47,759	58,520	52,270	6,517	0	29,451
Inflow, Natural	176	429	1,360	1,045	300	69
Inflow, Natural Release From Elderberry Forebay	69	296	1,648	858	215	31
3/Delivered to Contracting Agencies	31,392	25,473	29,879	27,843	32,801	33,862
Operational Losses (-), Gains (+)	-680	709	2,296	953	573	1,311
Outflow, Castaic Afterbay	0	69	0	1,187	1,588	2,458
Castaic Lagoon Operation						
Inflow	0	69	0	1,187	1,588	2,458
Change in Storage	-246	-52	-169	909	232	0
Operational Losses (-), Gains (+)	-55	-33	-46	-47	-90	-108
Outflow, Subsurface	191	88	123	231	450	535
Outflow, Surface	0	0	0	0	816	1,815

1/ Does not include lossshare of fish enhancement water.

2/ Includes amount billed United Water Conservation District and evaporation losses (not billed UWCD)
See Table for amounts.

3/ Includes 35 acre-feet for recreation purposes

SUMMARY OF CALIFORNIA AQUEDUCT OPERATION
1975

July	August	September	October	November	December	Total	Description
SOUTHERN FIELD DIVISION (Cont.)							
Pyramid Lake Operation							
161,021	167,588	163,652	164,536	168,229	166,312		End of Month Storage
-1,500	6,567	-3,936	884	3,693	-1,917	8,387	Storage Change
46,338	53,034	40,038	52,759	53,648	45,727	500,484	Inflow, Project
194	124	177	259	350	416	14,594	Inflow, Natural, from Local Runoff
22,866	7,182	452	162	269	125	51,161	Inflow, Pumpback from Elderb. Forebay
-2,454	-2,029	-1,075	-2,091	-1,621	-2,116	-19,747	Operational Losses (-), Gains (+)
67,641	51,012	42,918	49,838	48,652	45,774	520,935	Outflow, Angeles Tunnel
							Outflow, Natural Inflow Released to Piru Creek
385	124	177	259	301	295	15,445	Outflow, Project Water for Fish Enhancement
418	608	433	108	0	0	1,725	
Elderberry Forebay Operation							
23,163	17,553	23,080	19,307	19,459	20,975		End of Month Storage
3,358	-5,610	5,527	-3,773	152	1,516	-2,563	Storage Change
67,641	51,012	42,918	49,838	48,652	45,774	520,935	Inflow, Project
19	1	0	1	1	5	3,144	Inflow, Natural
-652	-296	-240	-732	-128	-72	-6,331	Operational Losses (-), Gains (+)
22,866	7,182	452	162	269	125	51,161	Outflow, Pumpback to Pyramid Lake
40,765	49,144	36,699	52,717	48,103	44,061	466,006	Outflow, Project Water Released to Castaic Lake
19	1	0	1	1	5	3,144	Outflow, Natural Inflow Released to Castaic Lake
Castaic Lake Operation							
169,927	185,707	189,183	208,331	222,794	236,248		End of Month Storage
5,930	15,780	3,476	19,148	14,463	13,454	91,874	Storage Change
40,765	49,144	36,699	52,717	48,103	44,061	466,006	Inflow, Project
1	5	6	12	19	30	3,452	Inflow, Natural
19	1	0	1	1	5	3,144	Inflow, Natural Release from Elderberry Forebay
34,278	32,360	31,730	32,281	31,913	30,503	374,315	Delivered to Contracting Agencies
471	-707	-1,237	-1,016	-1,513	166	1,326	Operational Losses (-), Gains (+)
1,048	303	262	285	234	305	7,739	Outflow, Castaic Afterbay
Castaic Lagoon Operation							
1,048	303	262	285	234	305	7,739	Inflow
-48	-45	-18	6	-60	47	556	Change in Storage
-124	-124	-104	-94	-82	-65	-972	Operational Losses (-), Gains (+)
307	224	176	185	212	193	2,915	Outflow, Subsurface
665	0	0	0	0	0	3,296	Outflow, Surface



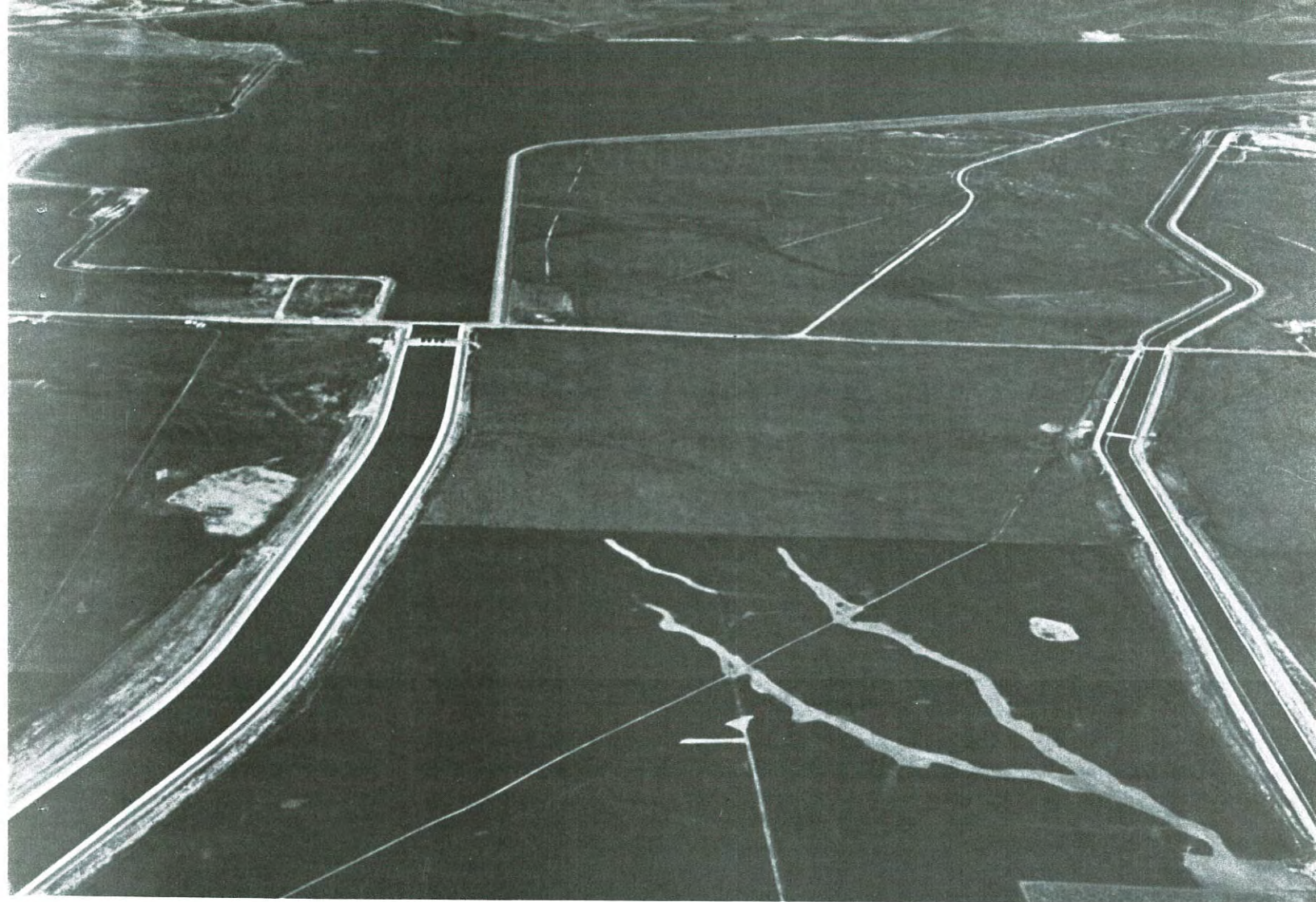
PUMPING PLANTS

PROJECT PUMPING PLANTS*
1975

Amounts in acre-feet

Pumping Plant	January	February	March	April	May	June	July	August	September	October	November	December	Total
Ryatt	361	534	2,907	12,418	17,889	17,235	0	0	0	0	0	0	51,344
Thermalito	0	0	1,101	13,314	16,125	18,097	0	0	0	0	0	0	48,637
Cordelia	664	565	658	714	705	373	160	463	577	546	702	723	6,850
Delta State	145,974	135,353	136,998	117,508	93,428	12,292	16,495	253,545	233,444	237,631	245,118	238,101	1,886,772
Federal	20,885	0	0	0	0	0	0	0	0	0	0	0	20,885
South Bay	9,533	10,177	3,500	4,260	11,174	12,506	14,589	13,860	9,631	5,318	9,109	12,161	115,818
Del Valle	0	4,247	325	0	0	0	0	0	0	0	0	0	4,572
San Luis State	0	0	0	0	0	0	24	0	92,590	157,192	148,232	72,556	470,594
Federal	2,585	64,048	40	7,230	0	0	0	0	44,576	52,120	181,284	152,180	504,063
* O'Neill (USBR)													
Federal	109,578	176,715	150,436	106,634	32,106	3,312	28,997	47,511	90,037	136,562	225,243	249,664	1,356,795
State	0	0	0	0	0	0	0	0	0	0	0	0	0
Dos Amigos State	132,950	122,912	153,382	96,010	121,648	208,136	233,358	250,208	125,969	124,764	109,574	149,234	1,828,145
Federal	129,697	119,049	122,213	117,556	124,484	178,758	183,901	155,780	57,387	44,446	46,864	95,697	1,375,832
Las Perillas	7,530	11,474	12,466	12,595	17,686	19,641	25,963	23,690	5,904	5,560	3,590	6,507	152,606
Badger Hill	7,507	11,513	12,417	12,685	17,250	19,059	25,447	23,183	5,920	5,594	3,592	6,508	150,675
Buena Vista	76,216	73,858	83,326	27,788	42,255	108,408	101,165	104,467	70,617	81,638	84,835	81,170	935,743
Wheeler Ridge	66,288	56,292	63,246	16,658	23,985	79,303	68,061	77,291	61,879	76,990	81,149	77,167	748,309
Wind Gap	63,617	54,519	61,417	14,007	20,119	74,858	62,749	73,686	59,433	76,129	81,524	76,394	718,452
A. D. Edmonston	54,067	54,067	61,381	13,756	18,365	73,683	60,660	69,900	57,656	73,157	79,456	74,851	690,999
Oso	50,027	50,337	56,257	6,182	3,449	43,971	46,260	53,939	39,653	51,528	54,402	45,653	501,658
Castaic	993	1,227	309	0	0	17,576	22,866	7,182	452	162	269	125	51,161
Pearblossom	14,300	4,380	5,533	6,860	13,537	28,170	13,042	14,822	17,118	22,106	25,168	29,819	194,855

* O'Neill Pumping Plant is a federal USBR facility.



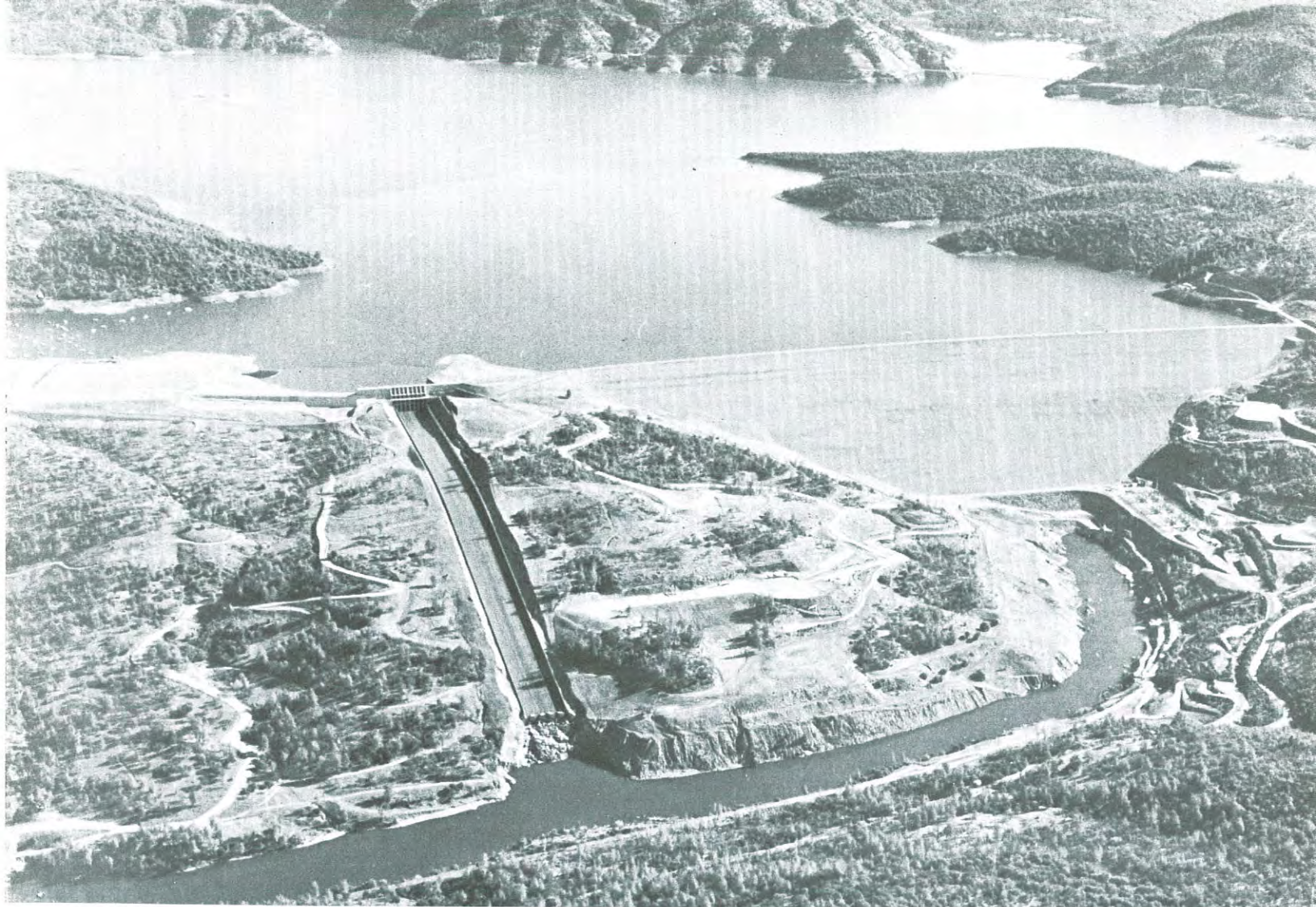
JOINT SAN LUIS FACILITIES

MONTHLY OPERATIONS SUMMARY
STATE-FEDERAL JOINT SAN LUIS FACILITIES

19 75

Amounts in acre-feet unless noted.

		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Check 12	State	136,332	124,969	133,010	112,399	79,502	211	700	233,971	223,154	231,910	235,671	225,778	1,737,607
	Federal	20,885	0	0	0	0	0	0	0	0	0	0	0	20,885
	Total	157,217	124,969	133,010	112,399	79,502	211	700	233,971	223,154	231,910	235,671	225,778	1,758,492
O'Neill Pumping and Generating Plant Amount Pumped	State	0	0	0	0	0	0	0	0	0	0	0	0	0
	Federal	109,578	176,715	150,436	106,634	32,106	3,312	28,997	47,511	90,037	136,562	225,243	249,664	1,356,795
	Total	109,578	176,715	150,436	106,634	32,106	3,312	28,997	47,511	90,037	136,562	225,243	249,664	1,356,795
Released for Generation	Federal	0	0	0	0	10,599	13,257	4,378	4,562	1,216	0	0	0	34,012
O'Neill Forebay End-of-Month Storage	State	18,768	20,503	-1,996	13,024	24,416	22,873	18,163	20,865	30,514	36,112	20,730	27,982	
	Federal	28,094	20,668	46,503	26,075	24,449	20,434	25,275	28,845	19,463	17,080	19,524	23,867	XXXX XXXX XXXX
	Total	46,862	41,171	44,507	39,099	48,865	43,307	43,438	49,710	49,977	53,192	40,254	51,849	
San Luis Reservoir End-of-Month Storage	State	1,063,673	1,061,765	1,062,369	1,060,642	1,004,011	794,805	564,705	544,185	629,747	721,425	853,938	914,203	
	Federal	873,128	936,034	936,568	942,467	837,189	648,859	481,651	362,987	401,813	497,826	666,249	808,372	XXXX XXXX XXXX
	Total	1,936,801	1,997,799	1,998,937	2,003,109	1,841,200	1,443,664	1,046,356	907,172	1,031,560	1,219,251	1,520,187	1,722,575	
San Luis Pumping and Generating Plant Amount Pumped	State	0	0	0	0	0	0	24	0	92,590	157,192	148,232	72,556	470,594
	Federal	2,585	64,048	40	7,230	0	0	0	0	44,576	52,120	181,284	152,180	504,063
	Total	2,585	64,048	40	7,230	0	0	24	0	137,166	209,312	329,516	224,736	974,657
Released for Generation	State	0	512	0	101	55,775	212,643	235,211	19,920	0	248	0	0	524,410
	Federal	0	0	0	0	104,578	191,142	171,370	118,174	0	0	0	0	524,410
	Total	0	512	0	101	160,353	403,785	406,581	138,094	0	248	0	0	1,109,674
Dos Amigos Pumping Plant Amount Pumped	State	132,950	122,912	153,382	96,010	121,648	208,136	233,358	250,208	125,969	124,764	109,574	149,234	1,828,145
	Federal	129,697	119,049	122,213	117,556	124,484	178,758	183,901	155,780	57,387	44,446	46,864	95,697	1,375,832
	Total	262,647	241,961	275,595	213,566	246,132	286,894	417,259	405,988	183,356	169,210	156,438	244,931	3,203,977



OPERATION
OF
RESERVOIRS

UPPER FEATHER AREA LAKES MONTHLY OPERATION

1975

Amounts in acre-feet unless noted

Month	Lake Storage			Outflow							Inflow
	Water Surface Elevation in feet	Storage	Storage Change	Regulated		Release		Spill	Estimated Evaporation and Seepage	Total Outflow	Computed or Estimated
				Streamflow Maint.	Water Supply Contract	Water Right Entitlement	Total Regulated Release				
	1	2	3	4	5	6	7	8	9	10	11

ANTELOPE LAKE

Capacity 22,566 ac-ft

Jan	4992.00	14,303	-5,721	6,291		0	6,291	0	55	6,346	625
Feb	4992.05	14,388	85	555		0	1,416	0	49	1,465	1,550
Mar	4995.33	16,841	2,453	615		0	615	0	90	705	3,158
Apr	5000.18	20,906	4,065	595		0	595	0	165	760	4,825
May	5003.62	24,102E	3,196	615		0	615	15,690	286	16,591	19,787
June	5002.41	22,950	-1,152	595		0	595	8,387	361	9,343	8,191
July	5001.96	22,529	-421	615		0	615	782	788	2,185	1,764
Aug	5000.44	21,139	-1,390	1,462		0	1,462	0	530	1,992	602
Sept	4999.22	20,059	-1,080	1,144		0	1,144	0	300	1,444	364
Oct	4999.35	20,173	114	660		0	660	0	218	878	992
Nov	4999.56	20,357	184	595		0	595	0	140	735	919
Dec	4999.73	20,507	150	615		0	615	0	97	712	862
Tot			483	8,681		0	15,218	24,859	3,079	43,156	43,639

FRENCHMAN LAKE

Capacity 55,477 ac-ft

Jan	5575.94	38,388	427	137	0	0	137	0	88	225	652
Feb	5576.64	39,276	888	427	0	0	427	0	89	516	1,404
Mar	5576.67	39,315	39	2,366	0	0	2,366	0	154	2,520	2,559
Apr	5578.31	41,446	2,131	3,669	0	0	3,669	0	257	3,926	6,057
May	5584.60	50,269	8,823	2,696	3,610	0	6,306	0	392	6,698	15,521
June	5580.89	44,941	-5,328	1,684	5,891	0	7,575	0	718	8,293	2,965
July	5577.97	40,999	-3,942	750	2,463	0	3,213	0	841	4,054	112
Aug	5571.20	32,712	-8,287	1,769	5,964	0	7,733	0	680	8,413	126
Sept	5567.95	29,158	-3,554	2,519	674	0	3,193	0	474	3,667	113
Oct	5563.99	25,157	-4,001	3,768	0	0	3,768	0	375	4,143	142
Nov	5564.23E	25,390	233	42	0	0	42	0	155	197	430
Dec	5564.66	25,810	420	0	0	0	0	0	107	107	527
Tot			-12,151	19,827	18,602	0	38,429	0	4,330	42,759	30,608

LAKE DAVIS

Capacity 84,371 ac-ft

Jan	5768.49	60,339	-8,316	7,992	26	0	8,018	0	498	8,516	200
Feb	5769.31	63,125	2,786	444	15	0	459	0	240	699	3,485
Mar	5770.10	65,875	2,750	837	19	0	856	0	418	1,274	4,024
Apr	5769.97	65,418	-457	4,082	25	0	4,107	0	700	4,807	4,350
May	5773.66	79,069	13,651	4,937	50	208	5,195	0	1,044	6,239	19,890
June	5773.83	79,731	662	1,075	75	417	1,567	0	1,953	3,520	4,182
July	5773.07	76,792	-2,939	257	217	80	554	0	2,600	3,154	215
Aug	5772.45	74,439	-2,353	499	422	65	986	0	1,844	2,830	477
Sept	5771.94	72,532	-1,907	473	409	38	920	0	1,623	2,543	636
Oct	5771.94	72,235	-297	492	12	428	932	0	927	1,859	1,562
Nov	5771.70	71,644	-591	893	0	0	893	0	591	1,484	893
Dec	5771.50	70,909	-735	922	0	0	922	0	404	1,326	591
Tot			2,254	22,903	1,270	1,236	25,409	0	12,842	38,251	40,505

LAKE OROVILLE
MONTHLY OPERATION

Capacity 3,537,577 ac-ft.

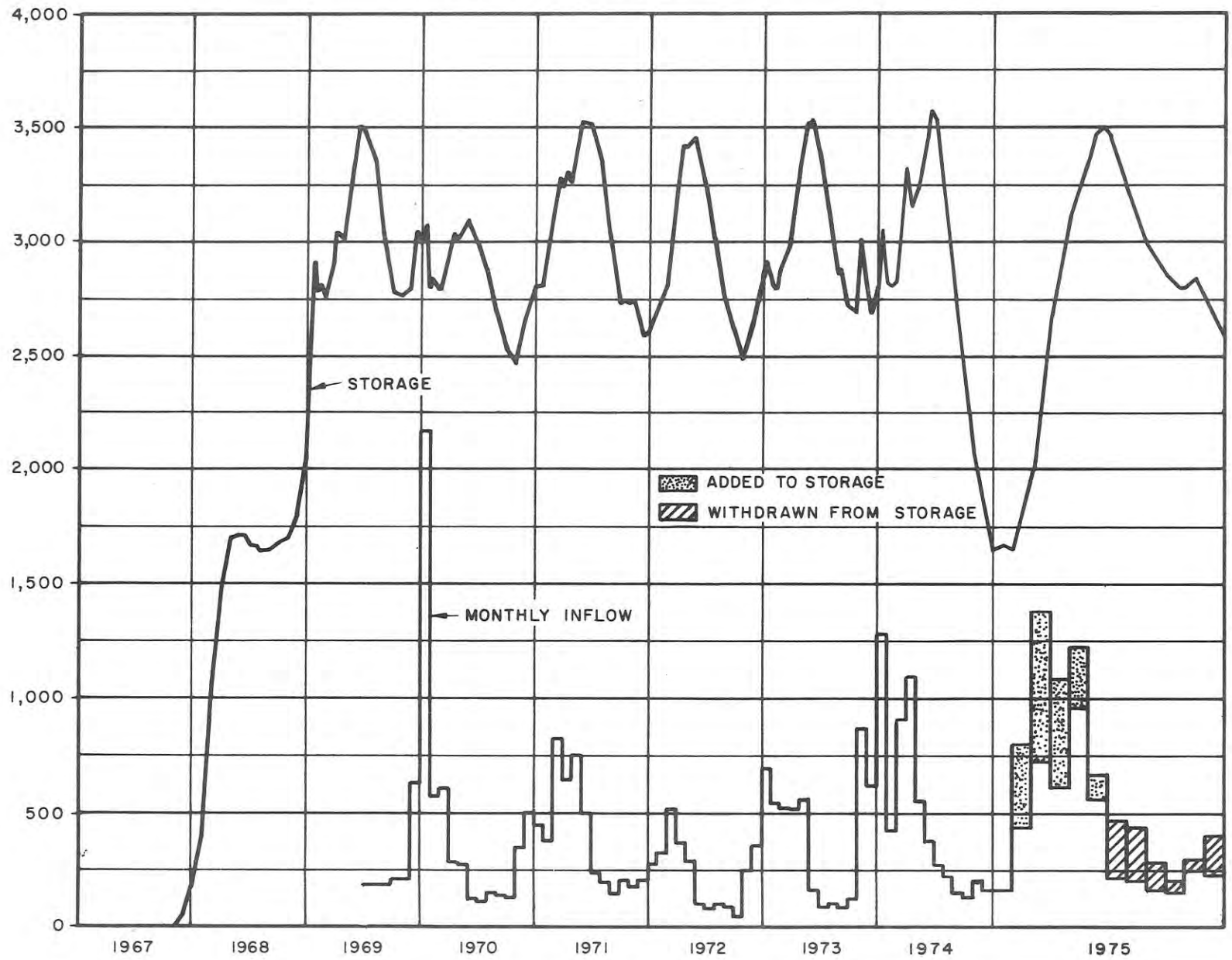
Amounts in acre-feet unless noted

Month	Year	Water Surface Elevation in feet	Storage	Storage Change	Outflow, in ac-ft.						Inflow, in ac-ft.	
					Power	Palermo Canal	Spillway Leakage	Evaporation	Spill	Total Outflow	Pump Back	Total Inflow
Jan.	75	748.34	1,662,119	-5,010	175,162	245	0	868	0	176,275	361	170,904
	74	851.29	2,825,690	22,836	821,268	233	1,648	1,207	469,425	1,293,781	0	1,316,617
Feb.	75	783.97	2,016,133	354,014	88,163	0	0	956	0	89,119	534	442,599
	74	852.91	2,847,573	21,883	418,963	296	3,919	1,753	0	424,931	0	446,814
Mar.	75	839.78	2,673,592	657,459	73,741	75	159	1,903	0	75,878	2,907	730,430
	74	886.33	3,326,202	478,629	780,112	382	4,618	2,148	120,662	907,922	0	1,386,551
Apr.	75	870.87	3,127,081	453,489	156,505	215	1,144	3,577	0	161,441	12,418	602,512
	74	879.41	3,222,725	-103,477	742,444	372	2,297	4,296	454,699	1,204,108	0	1,100,631
May	75	890.23	3,385,559	258,478	693,816	1,038	2,273	7,650	0	704,777	17,889	945,366
	74	893.90	3,442,104	219,379	542,218	889	7,740	7,437	0	558,284	0	777,663
June	75	896.07	3,475,853	90,294	459,141	1,378	4,604	9,788	0	474,911	17,235	547,970
	74	898.45	3,513,140	71,036	360,598	1,200	3,211	9,894	0	374,903	50	445,939
July	75	879.56	3,224,943	-250,910	442,779	1,506	1,722	10,677	0	456,684	0	205,774
	74	876.78	3,184,018	-329,122	584,279	1,075	3,136	10,735	0	599,225	65	270,103
Aug.	75	862.81	2,983,894	-241,049	426,730	1,454	508	9,758	0	438,450	0	197,401
	74	846.20	2,757,702	-426,316	633,152	1,323	2,495	10,169	0	647,139	976	220,823
Sept.	75	853.64	2,857,472	-126,422	273,885	1,369	294	7,697	0	283,245	0	156,823
	74	817.63	2,396,998	-360,704	508,605	1,214	1,408	8,124	0	519,351	0	158,647
Oct.	75	850.02	2,808,618	-48,854	192,705	645	246	3,928	0	197,524	0	148,670
	74	789.23	2,072,608	-324,390	452,890	767	0	5,399	0	459,056	0	134,666
Nov.	75	845.74	2,751,615	-57,003	302,337	408	228	2,234	0	305,207	0	248,204
	74	766.86	1,840,064	-232,544	431,276	352	0	1,462	0	433,090	105	200,546
Dec.	75	832.69	2,582,746	-168,869	397,175	302	103	1,142	0	398,722	0	229,853
	74	748.88	1,667,129	-172,935	334,794	365	0	911	0	336,070	0	163,135
Total	75			915,617	3,682,139	8,635	11,281	60,178	0	3,762,233	51,344	4,626,506
	74			-1,135,725	6,610,599	8,468	30,472	63,535	1,044,786	7,757,860	1,196	6,622,135

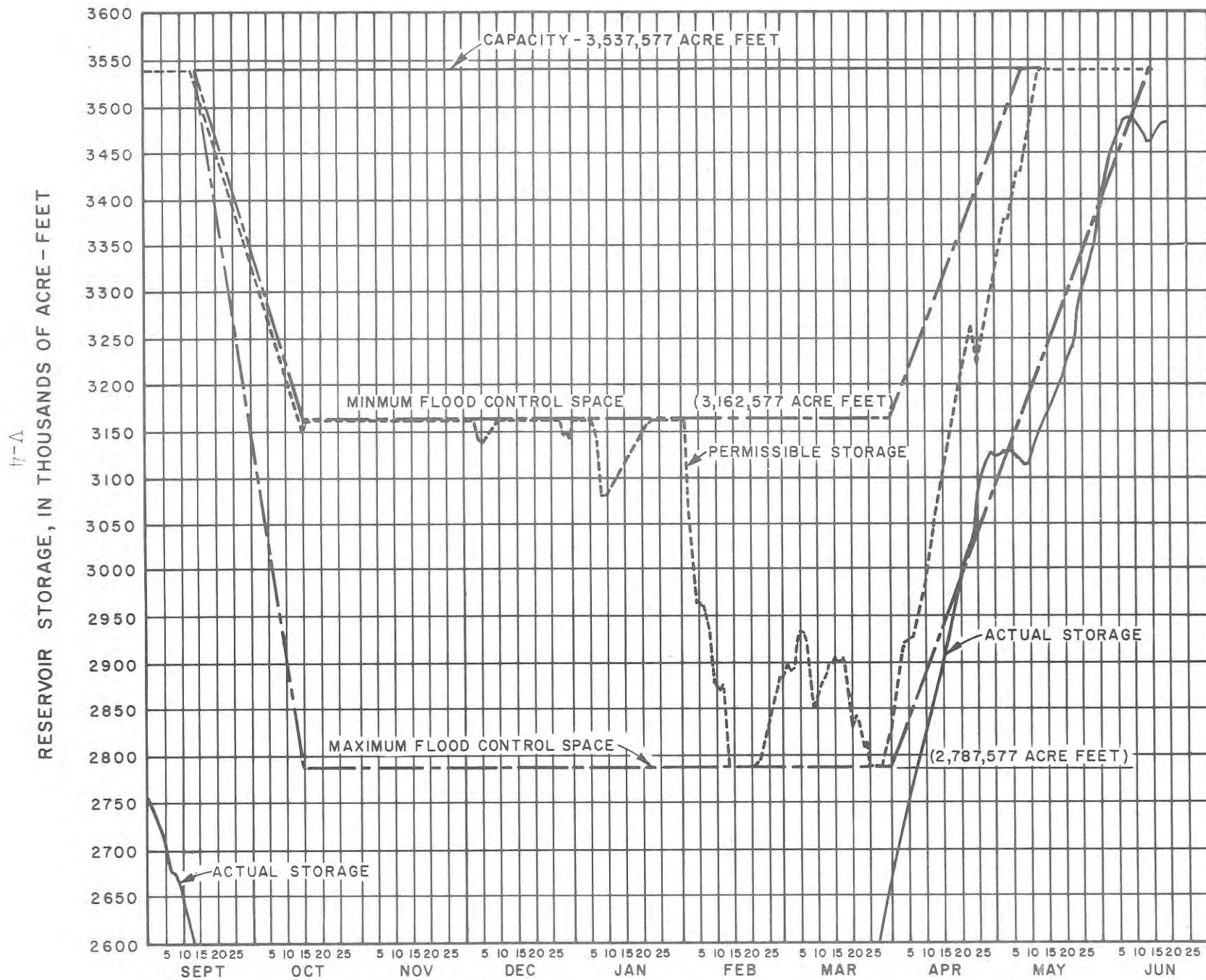
LAKE OROVILLE OPERATION

CAPACITY = 3,537,577 A. F.

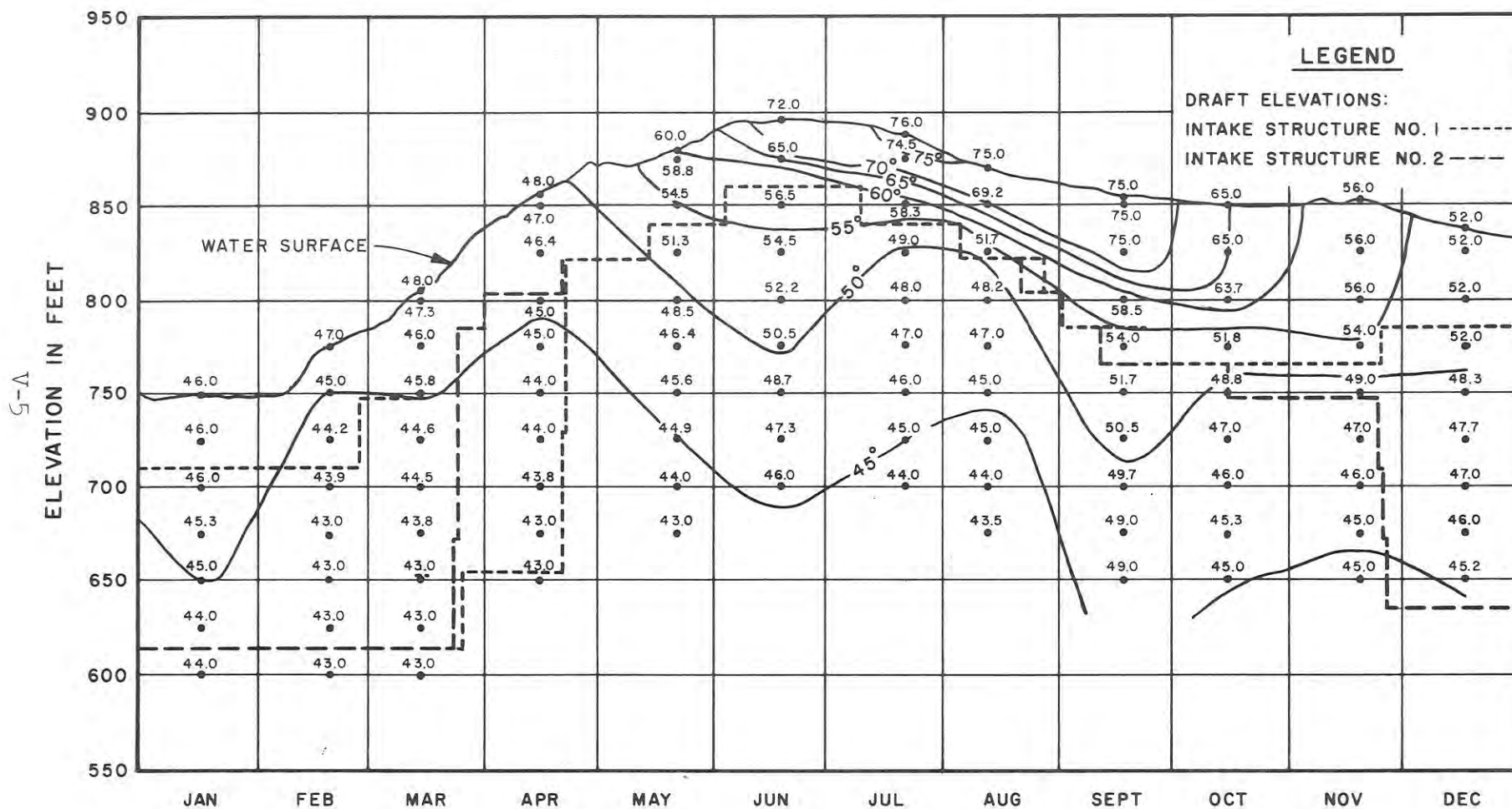
STORAGE, INFLOW AND RELEASE IN THOUSANDS OF ACRE- FEET



OPERATION OF LAKE OROVILLE FOR FLOOD CONTROL 1974-75



LAKE OROVILLE ISOTHERMS - 1975 (IN DEGREES FAHRENHEIT)



OROVILLE-THERMALITO COMPLEX
MONTHLY STORAGE
1975

Elevation in feet, storage in acre-feet

Month	Year	Thermalito Diversion Dam Pool		Thermalito Forebay		Thermalito Afterbay	
		Elevation	Storage	Elevation	Storage	Elevation	Storage
Jan.	1975 1974	224.50 224.61	13,191 13,227	224.40 223.44	11,392 10,801	128.33 132.50	26,829 40,963
Feb.	1975 1974	224.03 224.61	13,041 13,227	223.96 223.96	11,120 11,120	133.17 132.94	43,493 42,617
Mar.	1975 1974	222.60 224.98	12,588 13,346	222.82 222.04	10,425 9,959	132.29 132.47	40,184 40,852
Apr.	1975 1974	223.84 223.88	12,980 12,993	222.66 222.54	10,329 10,257	126.80 127.93	22,357 25,623
May	1975 1974	224.00 224.21	13,031 13,098	223.66 223.40	10,935 10,776	129.77 129.56	31,390 30,704
June	1975 1974	223.50 222.71	12,872 12,622	224.00 222.80	11,144 10,413	132.30 125.38	40,221 18,548
July	1975 1974	223.44 223.92	12,853 13,006	222.96 222.34	10,509 10,137	131.20 131.64	36,255 37,818
Aug.	1975 1974	223.33 224.39	12,818 13,156	223.06 224.04	10,570 11,169	129.00 132.83	28,908 42,201
Sept.	1975 1974	224.36 224.98	13,146 13,346	224.10 223.48	11,206 10,825	128.54 129.51	27,473 30,541
Oct.	1975 1974	223.81 224.25	12,970 13,111	223.90 224.24	11,803 11,293	128.95 130.40	28,751 33,493
Nov.	1975 1974	223.95 224.76	13,015 13,275	223.84 224.08	11,046 11,194	134.31 135.82	47,950 54,147
Dec.	1975 1974	223.30 225.02	12,808 13,359	223.78 223.44	11,009 10,801	134.31 132.85	47,950 42,276

CLIFTON COURT FOREBAY
MONTHLY OPERATION
1975

In acre-feet, except elevation, which is in feet.

Month	Year	Water Surface Elevation	Storage	Storage Change	Inflow
Jan.	1975	1.72	21,974	201	167,060
	1974	0.71	19,974	-2,528	41,960
Feb.	1975	1.30	21,066	-908	134,445
	1974	-1.13	15,894	-4,080	106,782
Mar.	1975	1.84	22,233	1,167	138,149
	1974	0.84	20,263	4,369	121,223
Apr.	1975	1.64	21,796	-437	118,600
	1974	1.52	21,771	1,508	92,834
May	1975	-2.01	13,944	-7,852	93,531
	1974	0.30	19,065	-2,706	162,027
June	1975	-2.01	13,944	0	21,250
	1974	0.46	19,420	355	261,437
July	1975	-1.90	14,180	236	24,443
	1974	0.23	18,910	-510	368,623
Aug.	1975	0.50	19,340	5,160	265,996
	1974	1.21	21,083	2,173	292,699
Sept.	1975	0.88	20,159	819	239,418
	1974	1.56	21,859	776	96,364
Oct.	1975	0.28	18,867	-1,292	237,921
	1974	2.15	23,168	1,309	64,972
Nov.	1975	-0.03	18,197	-670	244,880
	1974	2.57	23,810	642	111,705
Dec.	1975	0.65	19,663	1,466	259,567
	1974	1.63	21,773	-2,037	168,826
Total	1975			-2,110	1,945,260
	1974			-729	1,889,452

LAKE DEL VALLE
MONTHLY OPERATION
1975

Amounts in acre-feet unless noted

MONTH	ELEV. FT.	STORAGE IN LAKE	CHANGE	INFLOW		OUTFLOW			EVAP.	PREC. IN.
				NATURAL*	SOUTH BAY AQ.	SOUTH BAY AQ.	ARROYO VALLE	TOTAL		
JAN.	669.70	20,968	390	435	0	0	0	0	45	1.03
FEB.	693.82	33,746	12,778	8,593	4,247	0	0	0	62	4.13
MAR.	702.54	39,588	5,842	15,902	325	3,842	6,430	10,271	113	5.06
APR.	703.20	40,055	467	3,485	0	2,838	44	2,882	136	2.72
MAY	703.20	40,055	0	889	0	0	565	565	324	0.05
JUNE	702.82	39,786	-269	126	0	0	44	44	351	0
JULY	702.33	39,441	-345	60	0	0	0	0	405	0.07
AUG.	701.70	39,000	-441	-19	0	0	0	0	422	0.51
SEPT.	696.06	35,191	-3,809	133	0	3,037	561	3,598	344	0
OCT.	684.74	28,323	-6,868	-245	0	6,170	292	6,462	161	1.78
NOV.	678.44	24,997	-3,326	64	0	3,302	0	3,302	88	0
DEC.	678.48	25,017	20	96	0	0	0	0	76	0.18
TOTAL			4,439	29,519	4,572	19,189	7,936	27,124	2,527	15.53

* Total of stream gaging station above Lang Canyon and accretions (+) between gage and Lake.

O'NEILL FOREBAY
MONTHLY OPERATION

In acre-feet unless noted

Month	Year	Reservoir Storage			Inflow			Outflow				Gain (+) Loss (-)
		Water Surface Elevation in ft.	Storage	Monthly Storage Change	O'Neill Pumping	San Luis Generation	Calif. Aqueduct Check 12	O'Neill Generation	San Luis Pumping	Dos Amigos Pumping	Deliveries	
January	1975	221.42	46,862	-1,104	109,578	0	157,217	0	2,585	262,647	300	-2,367
	1974	219.79	42,611	-1,974	68,541	26,480	42,874	26	30,067	107,224	105	-2,447
February	1975	219.23	41,171	-5,691	176,715	512	124,969	0	64,048	241,961	361	-1,517
	1974	220.71	45,002	2,391	120,566	5,619	108,069	0	13,138	213,811	428	-4,486
March	1975	220.52	44,507	3,336	150,436	0	133,010	0	40	275,595	607	-3,868
	1974	221.15	46,152	1,150	147,451	2,838	115,162	0	21,703	237,817	382	-4,399
April	1975	218.41	39,099	-5,408	106,634	101	112,399	0	7,230	213,566	1,073	-2,673
	1974	221.75	47,730	1,578	81,509	48	86,733	0	11,342	155,264	589	483
May	1975	222.18	48,865	9,766	32,106	160,353	79,502	10,599	0	246,132	1,396	-4,068
	1974	221.56	47,230	-500	88,719	0	146,992	0	15,788	219,051	795	-577
June	1975	220.06	43,307	-5,558	3,312	403,785	211	13,257	0	386,894	1,332	-11,383
	1974	221.72	47,651	421	85,009	19,092	249,254	8	0	351,371	788	-767
July	1975	220.11	43,438	131	28,997	406,581	700	4,378	24	417,259	1,324	-13,162
	1974	222.44	49,556	1,905	14,146	64,430	347,305	6,024	0	420,102	758	2,908
August	1975	222.50	49,710	6,272	47,511	138,094	233,971	4,562	0	405,988	971	-1,783
	1974	220.19	43,646	-5,910	31,351	70,459	274,295	4,778	0	374,354	774	-2,109
September	1975	222.60	49,977	267	90,037	0	223,154	1,216	137,166	183,356	375	9,189
	1974	220.99	45,732	2,086	62,492	0	84,114	30	4,255	140,014	301	80
October	1975	223.80	53,192	3,215	136,562	248	231,910	0	209,312	169,210	232	13,249
	1974	219.79	42,611	-3,121	117,479	0	53,261	2,009	104,200	70,766	236	3,350
November	1975	218.87	40,254	-12,938	225,243	0	235,671	0	329,516	156,438	177	12,279
	1974	221.86	48,019	5,408	0	0	102,736	14,248	0	85,901	99	2,920
December	1975	223.30	51,849	11,595	249,664	0	225,778	0	224,736	244,931	114	5,934
	1974	221.84	47,966	-53	0	0	161,144	0	0	164,734	25	3,562
Total	1975			3,883	1,356,795	1,109,674	1,758,492	34,012	974,657	3,203,977	8,262	-170
	1974			3,381	817,263	188,966	1,771,939	27,123	200,493	2,540,409	5,280	-1,482

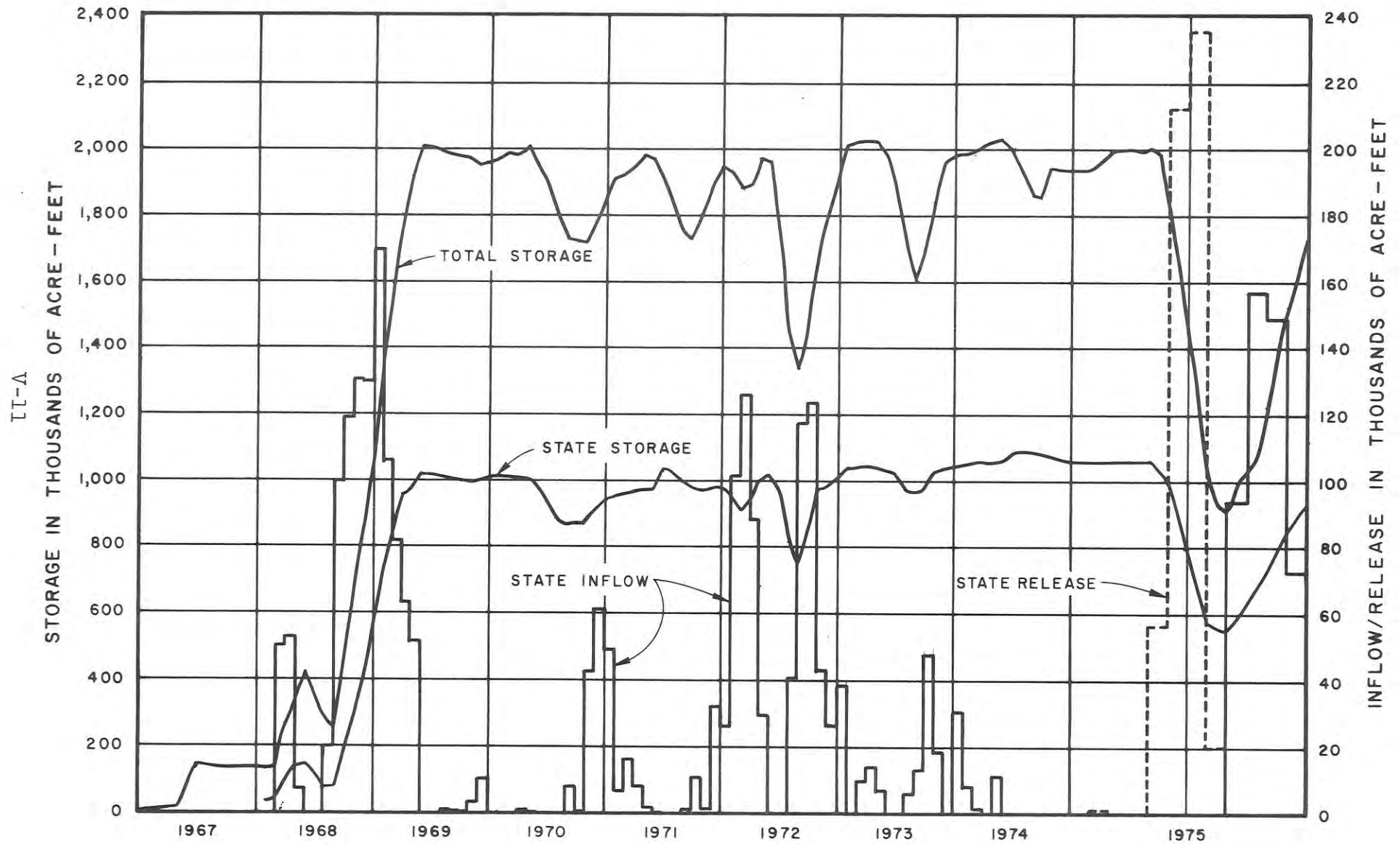
SAN LUIS RESERVOIR
MONTHLY OPERATION

In acre-feet unless noted

Month	Year	Reservoir Storage			Inflow	Outflow			Gain(+) Loss(-)	Evaporation	Prec. In Inches
		Water Surface Elevation in feet	Storage	Monthly Storage Change	San Luis Pumping	San Luis Generation	Pacheco Tunnel	Spill			
January	1975	535.78	1,936,801	-1,251	2,585	0	0	0	-3,836	1,337	0.17
	1974	539.88	1,988,323	4,036	30,067	26,480	0	0	449	1,524	1.75
February	1975	540.63	1,997,799	60,998	64,048	512	0	0	-2,538	2,447	2.67
	1974	540.18	1,992,111	3,788	13,138	5,619	0	0	-3,731	2,434	0.14
March	1975	540.72	1,998,937	1,138	40	0	0	0	1,098	3,973	2.57
	1974	541.68	2,011,088	18,977	21,703	2,838	0	0	112	3,822	2.07
April	1975	541.05	2,003,109	4,172	7,230	101	0	0	-2,957	5,893	0.64
	1974	542.32	2,019,203	8,115	11,342	48	0	0	-3,179	6,869	0.52
May	1975	528.07	1,841,200	-161,909	0	160,353	0	0	-1,556	11,594	0.00
	1974	542.91	2,026,692	7,489	15,788	0	0	0	-8,299	11,794	0.00
June	1975	494.38	1,443,664	-397,536	0	403,785	0	0	6,249	12,817	0.00
	1974	540.93	2,001,591	-25,101	0	19,092	0	0	-6,009	13,974	0.00
July	1975	457.38	1,046,356	-397,308	24	406,581	0	0	9,249	11,986	0.04
	1974	535.42	1,932,301	-69,290	0	64,430	0	0	-4,860	14,815	0.40
Aug.	1975	443.36	907,172	-139,184	0	138,094	0	0	-1,090	10,201	0.27
	1974	529.20	1,855,104	-77,197	0	70,459	0	0	-6,738	13,821	0.00
Sept.	1975	455.92	1,031,560	124,388	137,166	0	0	0	-12,778	8,150	0.01
	1974	528.98	1,852,392	-2,712	4,255	0	0	0	-6,967	10,191	0.00
October	1975	473.97	1,219,251	187,691	209,312	248	0	0	-21,373	4,566	0.62
	1974	536.43	1,944,940	92,548	104,200	0	0	0	-11,652	6,023	0.74
November	1975	501.09	1,520,187	300,936	329,516	0	0	0	-28,580	2,733	0.03
	1974	536.09	1,940,680	-4,260	0	0	0	0	-4,260	2,172	0.10
December	1975	518.30	1,722,575	202,388	224,736	0	0	0	-22,348	1,549	0.15
	1974	535.88	1,938,052	-2,628	0	0	0	0	-2,628	1,311	2.33
Total	1975			-215,477	974,657	1,109,674	0	0	-80,460	77,246	7.17
	1974			-46,235	200,493	188,966	0	0	-57,762	88,750	8.05

SAN LUIS RESERVOIR OPERATION

CAPACITY = 2,038,771 A. F.



PYRAMID LAKE
MONTHLY OPERATION
1975

Amounts in acre-feet unless noted

MONTH	WATER SURFACE ELEVATION IN FEET	TOTAL STORAGE 1/	STORAGE CHANGE	INFLOW			OUTFLOW					COMPUTED LOSSES (-) GAINS (+)
				NATURAL	PROJECT		ANGELES TUNNEL	TO PIRU CREEK				
					GORMAN CREEK	PUMPBACK 2/		NATURAL INFLOW RELEASE 3/	PROJECT WATER FOR FISH ENHANCEMENT			
									BILLED UWCD 4/	EVAP. LOSS	TOTAL	
JAN.	2,572.4	(79) 162,772	4,847	602	51,430	993	44,767	1,544	0	0	0	-1,867
FEB.	2,561.2	(699) 149,100	-13,672	1,036	50,170	1,227	64,224	416	0	0	0	-1,465
MAR.	2,571.1	(5,801) 161,146	12,046	7,379	54,480	309	45,809	2,277	0	0	0	-2,036
APR.	2,576.0	(6,812) 167,332	6,186	2,270	5,473	0	0	1,259	0	0	0	-298
MAY	2,576.3	(3,245) 167,716	384	1,345	4,304	0	0	4,912	0	0	0	-353
JUNE	2,572.2	(191) 162,521	-5,195	442	43,083	17,576	60,300	3,496	145	13	158	-2,342
JULY	2,571.0	(0) 161,021	-1,500	194	46,338	22,866	67,641	385	369	49	418	-2,454
AUG.	2,576.2	(0) 167,588	6,567	124	53,034	7,182	51,012	124	548	60	608	-2,029
SEPT.	2,573.1	(0) 163,652	-3,936	177	40,038	452	42,918	177	390	43	433	-1,075
OCT.	2,573.8	(0) 164,536	884	259	52,759	162	49,838	259	101	7	108	-2,091
NOV.	2,576.7	(49) 168,229	3,693	350	53,648	269	48,652	301	0			-1,621
DEC.	2,575.2	(170) 166,312	-1,917	416	45,727	125	45,774	295	0			-2,116
TOTAL			8,387	14,594	500,484	51,161	520,935	15,445	1,553	172	1,725	-19,747

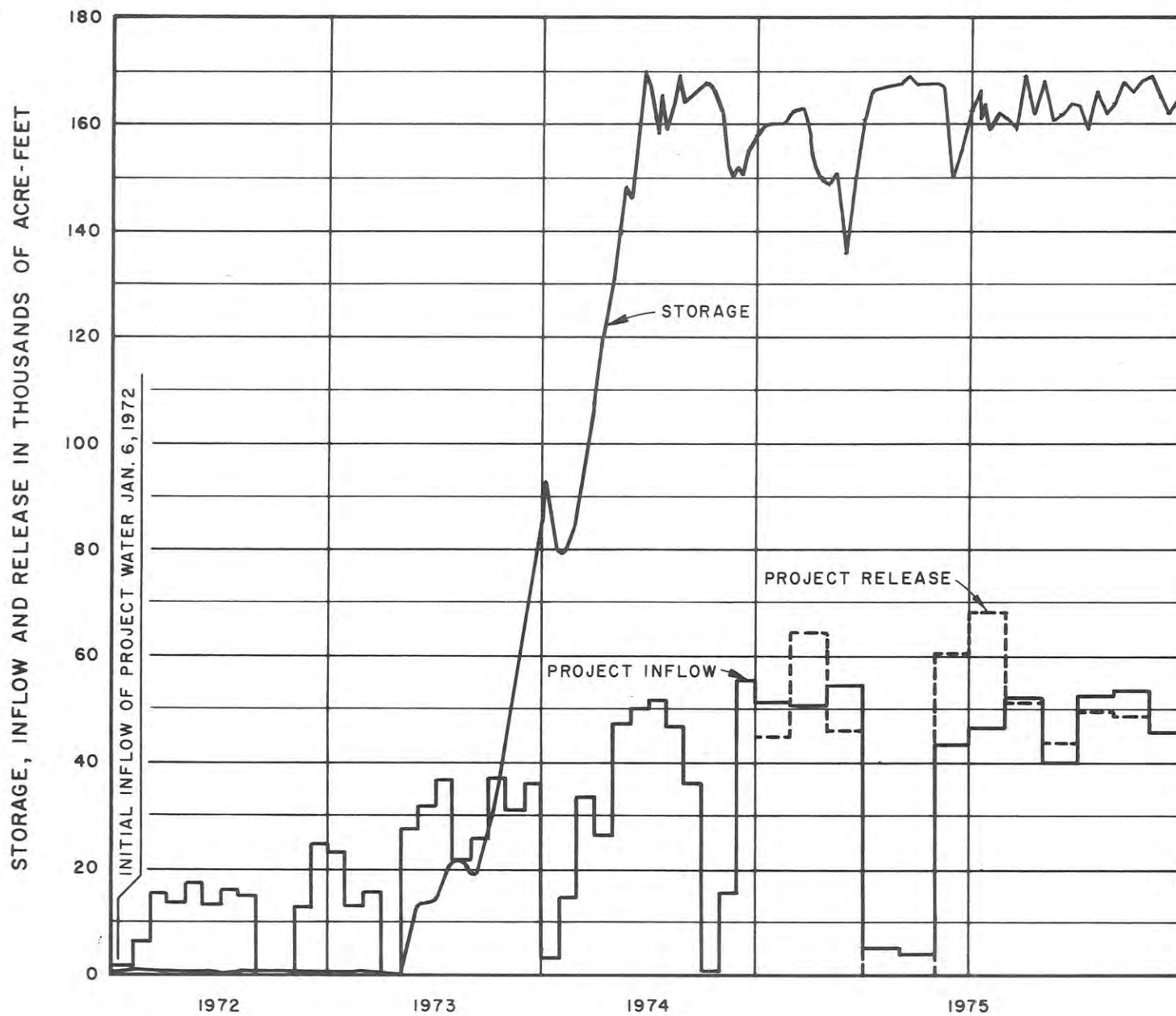
1/ Natural inflow storage shares shown in brackets.

2/ Pump back by Los Angeles Department of Water and Power (LADWP) from Elderberry Forebay thru Castaic Powerplant.

3/ Portion of these amounts used to satisfy fishery enhancement agreement.

4/ Purchased by United Water Conservation District in accordance with Recapture Agreement.

PYRAMID LAKE OPERATION CAPACITY : 171,196 ACRE - FEET



ELDERBERRY FOREBAY
MONTHLY OPERATION
1975

Amounts in acre-feet unless noted

MONTH	WATER SURFACE ELEVATION IN FEET	TOTAL STORAGE	STORAGE CHANGE	INFLOW		OUTFLOW			COMPUTED LOSSES (-) GAINS (+)
				CASTAIC P.P. GENERATION	NATURAL	TO CASTAIC LAKE		PUMPBACK TO PYRAMID LAKE	
						NATURAL	PROJECT		
JAN.	1,509.6	19,421	-4,117	44,767	69	69	47,759	993	-132
FEB.	1,519.3	23,538	4,117	64,224	296	296	58,520	1,227	-360
MAR.	1,496.7	14,977	-8,561	46,472	1,648	1,648	52,270	309	-2,454
APR.	1,470.0	7,602	-7,375	0	858	858	6,517	0	-858
MAY	1,470.0	7,602	0	0	215	215	0	0	0
JUNE	1,510.0	19,805	12,203	59,637	31	31	29,451	17,576	-407
JULY	1,518.40	23,163	3,358	67,641	19	19	40,765	22,866	-652
AUG.	1,504.0	17,553	-5,610	51,012	1	1	49,144	7,185	-293
SEPT.	1,518.2	23,080	5,527	42,918	0	0	36,699	452	-240
OCT.	1,508.7	19,307	-3,773	49,838	1	1	52,717	162	-732
NOV.	1,509.1	19,459	152	48,652	1	1	48,103	269	-128
DEC.	1,513.0	20,975	1,516	45,774	5	5	44,061	125	-72
TOTAL			-2,563	520,935	3,144	3,144	466,006	51,164	-6,328

CASTAIC LAKE
MONTHLY OPERATION
1975

Amounts in acre-feet unless noted

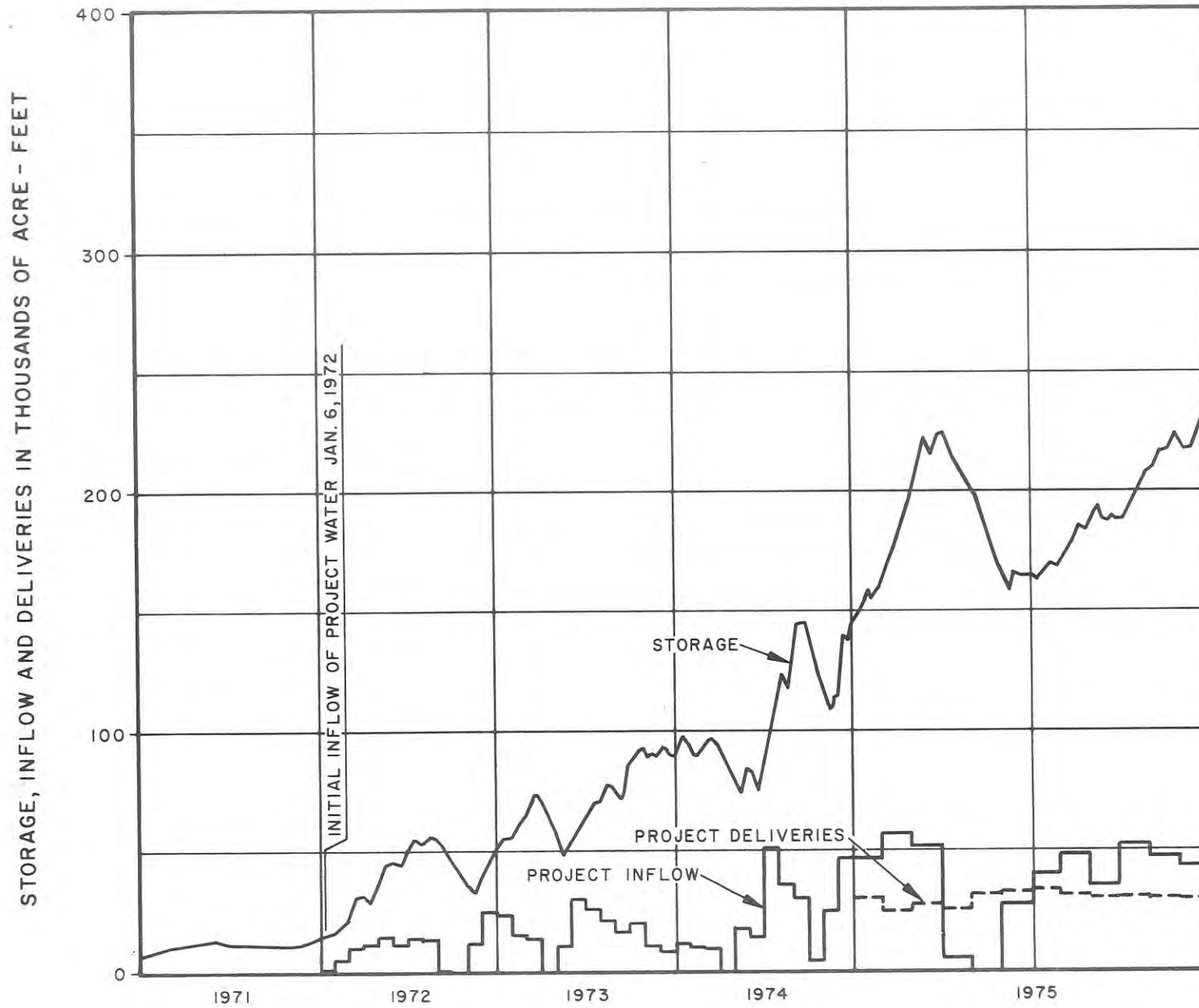
MONTH	WATER SURFACE ELEVATION IN FEET	TOTAL STORAGE 1/	STORAGE CHANGE	INFLOW			OUTFLOW		DISPOSITION OF NATURAL INFLOW		COMPUTED LOSSES (-) GAINS (+)
				NATURAL	FROM ELDERBERRY FOREBAY		DELIVERIES	RELEASED TO CASTAIC AFTERBAY	RELEASED FROM CASTAIC AFTERBAY		
					NATURAL	PROJECT			SURFACE	SUB- SURFACE	
JAN.	1,427.6	(-747) 160,306	15,932	176	69	47,759	31,392	0	0	191	-680
FEB.	1,449.0	(-110) 194,718	34,412	429	296	58,520	25,473	69	0	88	709
MAR.	1,464.79	(2,775) 222,413	27,695	1,360	1,648	52,270	29,879	0	0	123	2,296
APR.	1,453.70	(4,447) 202,756	-19,657	1,045	858	6,517	27,843	1,187	0	231	953
MAY	1,453.50	(3,696) 169,455	-33,301	300	215	0	32,801	1,588	816	450	573
JUNE	1,430.00	(1,184)* 163,997	-5,458	69	31	29,451	33,862	2,458	1,815	535	1,311
JULY	1,433.80	(232) 169,927	5,930	1	19	40,765	34,278	1,048	665	307	471
AUG.	1,443.60	(14) 185,707	15,780	5	1	49,144	32,360	303	0	224	-707
SEPT.	1,445.70	(-156) 189,183	3,476	6	0	36,699	31,730	262	0	176	-1,237
OCT.	1,456.9	(-328) 208,331	19,148	12	1	52,717	32,281	285	0	185	-1,016
NOV.	1,465.0	(-520) 222,794	14,463	19	1	48,103	31,913	234	0	212	-1,513
DEC.	1,472.3	(-678) 236,248	13,454	30	5	44,061	30,503	305	0	193	166
TOTAL			91,874	3,452	3,144	466,006	374,315	7,739	3,296	2,915	1,326

1/ Natural inflow storage change

1/ Natural inflow storage shares shown in brackets.

* Adjustment for 262 ac-ft which was subsurface flow from Castaic Lagoon in October and November 1973 and not reported in 1973.

CASTAIC LAKE OPERATION
CAPACITY 323,702 ACRE-FEET



SILVERWOOD LAKE
MONTHLY OPERATION
1975

Amounts in acre-feet unless noted

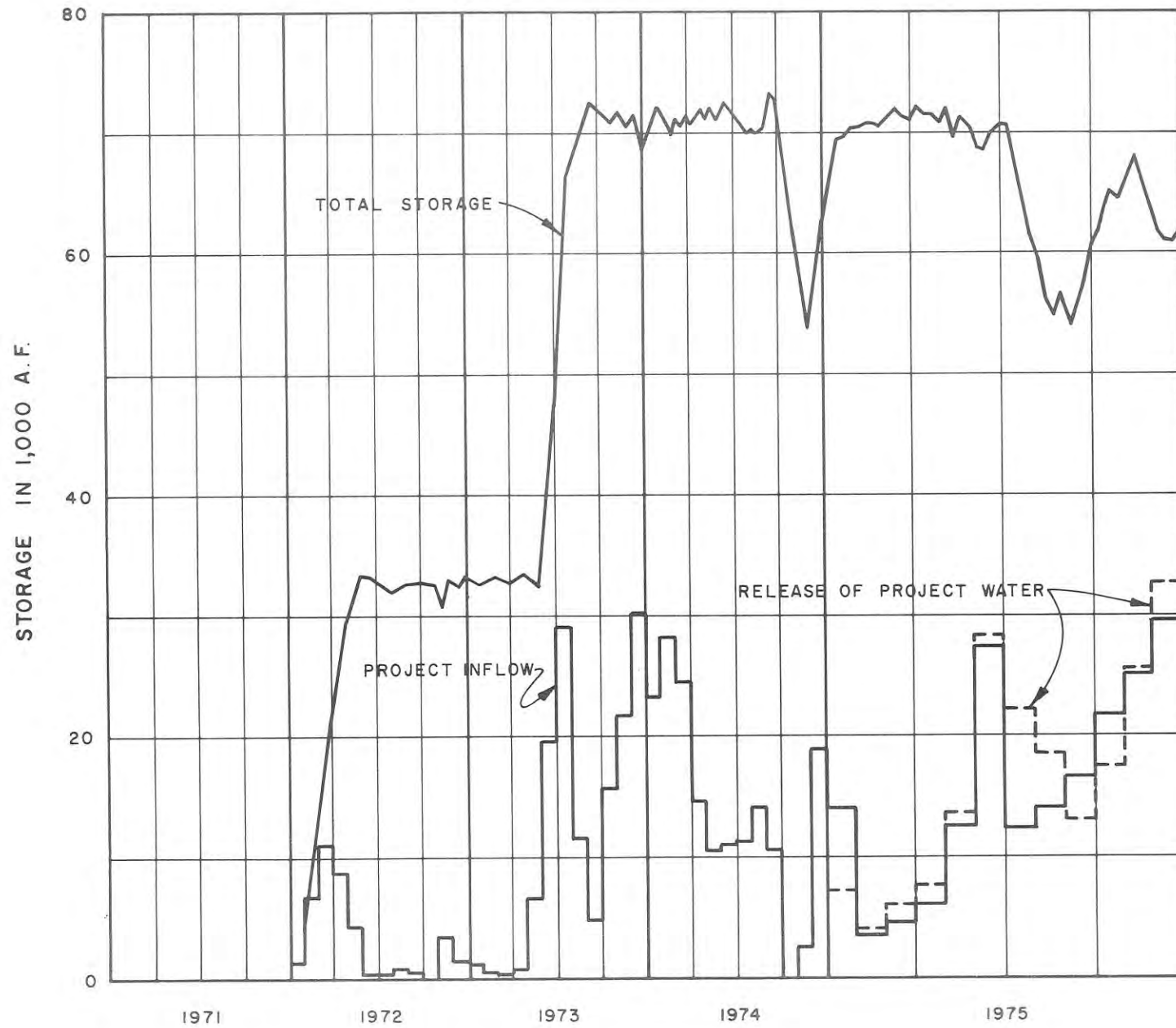
MONTH	WATER SURFACE ELEVATION IN FEET	STORAGE <u>1/</u>	STORAGE CHANGE	INFLOW		OUTFLOW			COMPUTED LOSSES	EXCHANGE OF NATURAL INFLOW <u>2/</u>
				NATURAL	PROJECT	SAN BERNARDINO TUNNEL	AT TURNOUT (CLAWA)	TO MOJAVE RIVER NATURAL INFLOW		
JAN.	3,350.2	(35) 70,364	6,967	201	14,059	6,918	72	0	-303	211
FEB.	3,350.4	(134) 70,553	189	766	3,650	4,014	45	132	-36	667
MAR.	3,350.7	(491) 70,837	284	2,635	4,628	5,958	47	1,407	433	2,278
APR.	3,350.6	(1,128) 70,742	-95	1,439	6,000	7,670	30	63	229	802
MAY	3,350.2	(1,191) 70,364	-378	781	12,690	13,581	43	121	-104	718
JUNE	3,350.3	(989) 70,453	89	216	27,379	28,191	77	0	762	418
JULY	3,340.2	(666) 61,276	-9,177	29	12,399	21,935	142	0	472	352
AUG.	3,334.79	(350) 56,634	-4,642	1	14,154	18,521	127	0	-149	317
SEPT.	3,339.20	(80) 60,403	3,769	9	16,586	13,022	105	0	301	279
OCT.	3,343.8	(4) 64,471	4,068	65	21,790	17,386	77	0	-324 ^{3/}	141
NOV.	3,343.1	(10) 63,843	-628	26	24,990	25,438	58	0	-148	20
DEC.	3,340.7	(40) 61,714	-2,129	104	29,631	32,635	72	0	843	74
TOTAL			-1,683	6,272	187,956	195,269	895	1,723	1,976 ^{3/}	6,277

^{1/} Remaining natural inflow storage share are shown in brackets.

^{2/} Releases made from Mojave Siphon to Los Flores Ranch Co. and to Mojave River from outlet for Mojave W.A. in exchange for natural inflow stored in lake.

^{3/} 39 acre-feet used for testing 30" cone valve, MWA not billed for same. Considered operational loss.

SILVERWOOD LAKE OPERATION
CAPACITY = 74,970 A.F.



LAKE PERRIS
MONTHLY OPERATION
1975

Amounts in acre-feet unless noted

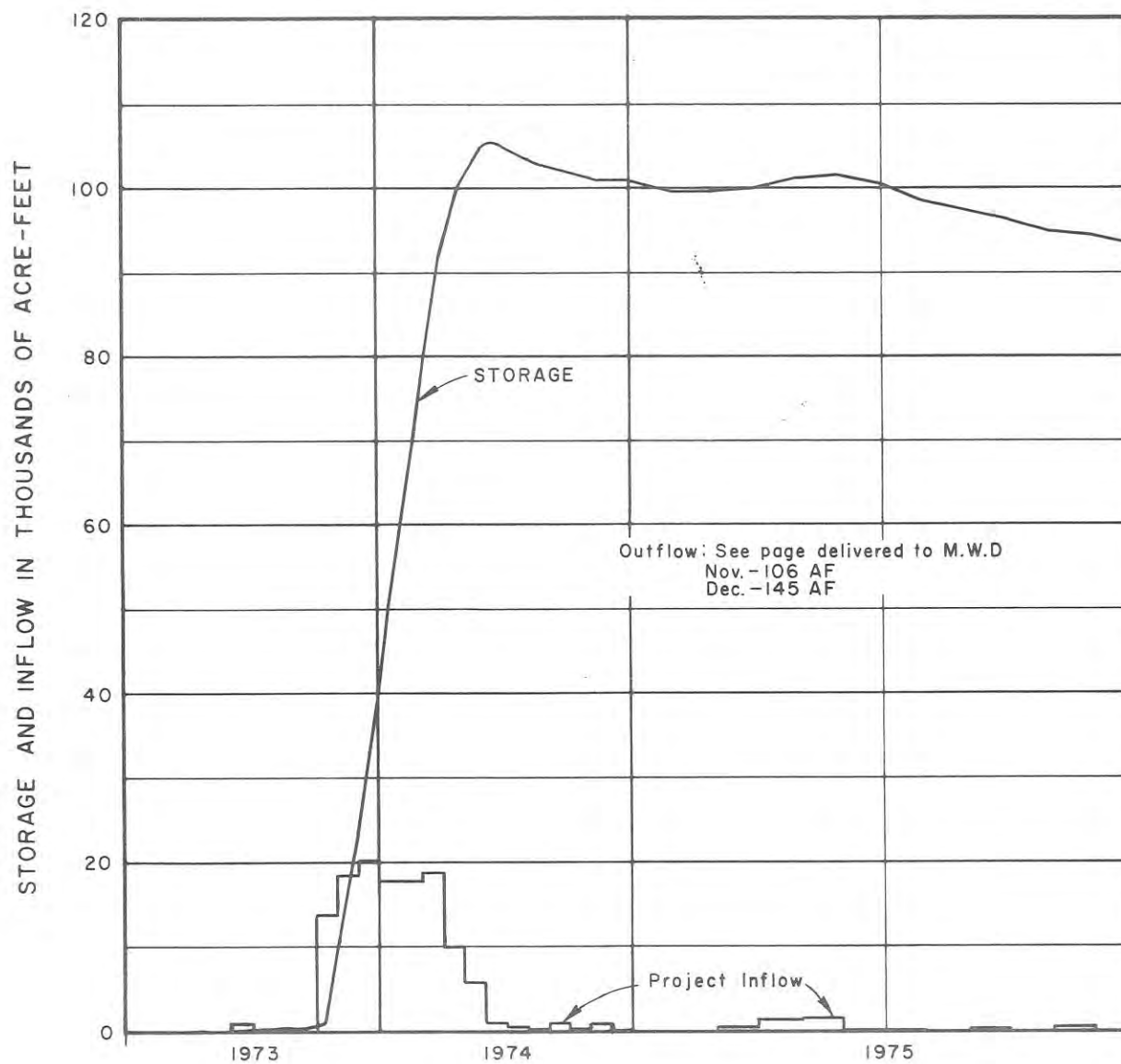
MONTH	WATER SURFACE ELEVATION IN FEET	TOTAL STORAGE	STORAGE CHANGE	INFLOW	OUTFLOW	COMPUTED LOSSES (-) GAINS (+)
JAN.	1,575.66	99,748	-610	256	0	-866
FEB.	1,575.59	99,601	-147	229	0	-376
MAR.	1,575.87	100,189	588	479	0	109
APR.	1,576.47	101,454	1,265	1,416	0	-151
MAY	1,576.51	101,539	85	1,507	0	-1,422
JUNE	1,575.91	100,274	-1,265	207	0	-1,472
JULY	1,575.24	98,867	-1,407	274	0	-1,681
AUG.	1,575.76	97,864	-1,003	125	0	-1,128
SEPT.	1,574.03	96,345	-1,519	207	0	-1,726
OCT.	1,573.49	95,226	-1,119	179	0	-1,298
NOV.	1,573.06	94,339	-887	707	106 ^{1/}	-1,488
DEC.	1,572.72	93,639	-700	-86 ^{2/}	145	-469
TOTAL			-6,719	5,504	251	-11,972

^{1/} Seepage delivered to M.W.D.

^{2/} Negative value due to different time frame in reading meters at turnouts and Devil Canyon Powerplant.

LAKE PERRIS OPERATION

CAPACITY 131,452 ACRE-FEET



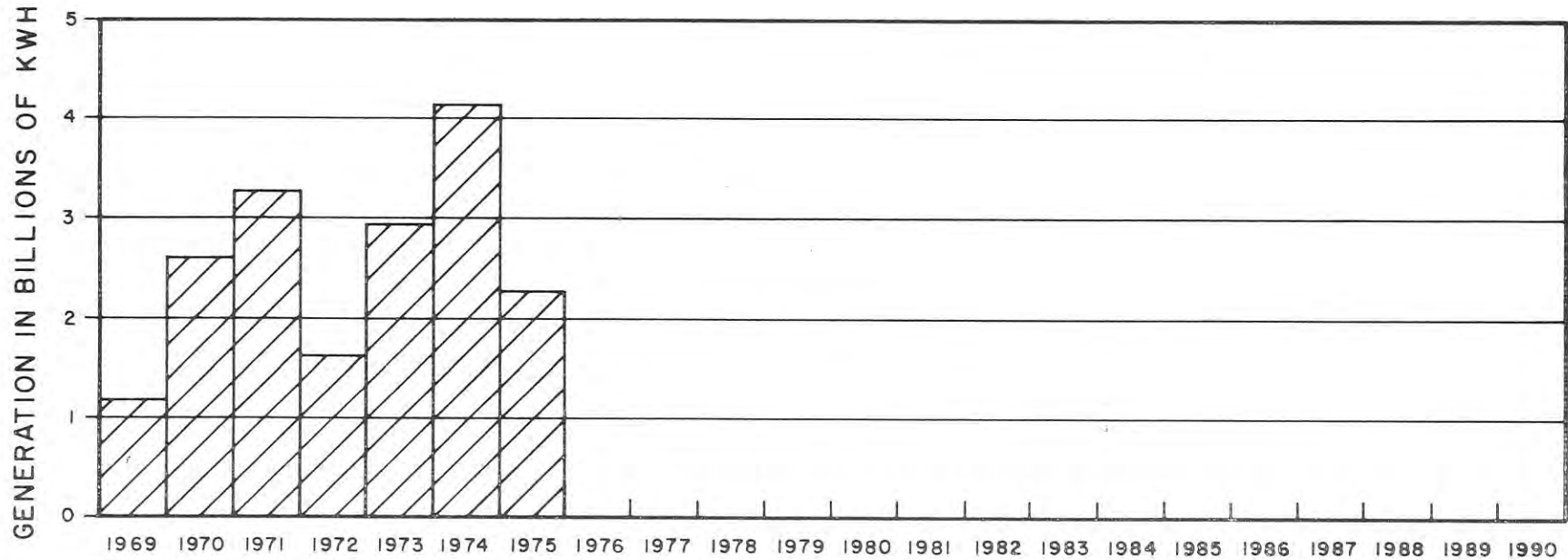


POWER SUPPLY & USE

OPERATION OF EDWARD HYATT & THERMALITO POWERPLANTS

ENERGY IN MILLIONS OF KWH

OPERATIONS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
ENERGY GENERATED BY EDWARD HYATT AND THERMALITO POWERPLANTS													
GROSS GENERATION	92.43	47.90	41.72	98.05	452.10	305.28	297.28	276.38	175.33	119.48	191.20	246.38	2,343.53
POWERPLANT USE AND PUMPBACK REQUIREMENTS	3.42	1.35	3.32	12.33	17.27	17.44	.37	.47	.66	.54	.52	.50	58.19
DELIVERED TO CALIFORNIA POWER POOL COMPANIES	89.01	46.55	38.40	85.72	434.83	287.84	296.91	275.91	174.67	118.94	190.68	245.88	2,285.34



PROJECT POWER SUPPLY

(in kilowatt hours)

Source	January	February	March	April	May	June	July	August	September	October	November	December	Total
San Luis Generation													
State	0	144,000	0	26,000	15,384,779	53,060,383	51,528,019	4,041,079	0	42,000	0	0	124,226,260
USBR	0	0	0	0	29,083,221	48,392,617	37,211,981	23,595,921	0	0	0	0	138,283,740
Total	0	144,000	0	26,000	44,468,000	101,453,000	88,740,000	27,637,000	0	42,000	0	0	262,510,000
Castaic	44,496,000	60,477,000	45,970,000	0	0	39,624,000	40,800,000	49,272,000	39,624,000	45,622,000	49,056,000	43,680,000	458,621,000
Devil Canyon	8,003,782	4,738,201	6,731,975	8,802,248	16,141,439	34,071,059	26,531,056	22,098,854	15,433,817	21,027,858	30,456,448	38,967,041	233,003,778
Northwest Dump	0	0	0	0	0	0	0	0	0	0	0	0	0
Canadian Entitlement	0	0	0	0	0	0	0	0	0	0	0	0	0
Suppliers	266,509,647	213,804,964	250,765,439	106,371,762	108,699,802	215,588,637	179,255,915	330,310,220	292,272,584	356,503,017	371,727,075	341,224,208	3,033,033,270

PROJECT POWER USE 1/

(in kilowatt hours)

PUMPING PLANT	January	February	March	April	May	June	July	August	September	October	November	December	Total
Cordelia	333,292	288,695	332,762	367,032	362,961	191,860	85,291	230,272	299,221	273,929	360,266	370,102	3,495,683
Tracy (State)	1,019,000	0	0	0	0	0	0	0	0	0	0	1,018,750	2,037,750
Delta													
State	44,548,582	41,390,058	41,601,723	35,540,417	28,305,335	4,079,355	5,330,100	76,718,811	70,657,505	72,177,642	74,794,587	72,831,878	567,975,993
USBR	6,390,810	0	0	0	0	0	0	0	0	0	0	0	6,390,810
South Bay	7,945,271	8,801,068	2,984,988	3,541,162	9,320,980	10,796,280	12,536,898	11,817,720	8,039,244	4,394,065	7,711,021	10,340,888	98,229,585
Del Valle	17,403	368,175	27,546	15,952	13,976	11,906	12,227	9,693	18,936	11,906	17,020	14,356	539,096
San Luis													
State	0	0	0	0	1,048	4,714	10,668	1,048	24,749,086	43,503,571	44,904,698	23,776,350	136,951,183
USBR	1,277,000	33,200,000	18,000	4,121,000	952	4,286	3,332	952	11,976,914	14,634,429	55,138,423	49,830,650	170,205,938
Dos Amigos													
State	18,209,666	17,384,615	20,025,359	14,234,893	16,132,028	28,784,962	31,822,737	33,893,348	17,417,422	16,920,446	15,032,793	19,983,088	249,841,357
USBR	18,288,334	15,527,385	17,487,641	15,073,107	17,746,972	24,221,038	25,149,263	21,538,652	7,100,578	5,978,554	6,491,207	13,529,912	188,132,643
Las Perillas	549,238	836,686	911,281	909,165	1,283,062	1,451,019	1,913,158	1,767,814	439,129	412,692	265,870	476,110	11,215,224
Badger Hill	1,453,534	2,287,111	2,421,724	2,448,903	3,451,253	3,843,637	5,126,175	4,759,163	1,123,473	1,054,175	678,745	1,282,672	29,930,565
Buena Vista	18,742,841	18,024,196	20,259,981	6,903,347	10,351,391	26,270,466	24,513,778	25,355,827	17,189,407	19,846,215	20,564,860	19,751,848	227,774,157
Wheeler Ridge	18,815,432	15,904,557	17,915,311	4,914,370	6,946,901	22,568,355	19,446,968	21,631,939	17,283,774	21,363,355	22,829,681	21,980,373	211,601,016
Wind Gap	40,418,335	35,017,609	39,431,205	9,001,210	12,688,802	47,880,628	39,808,575	46,341,711	37,369,538	47,474,122	50,900,388	47,938,700	454,270,723
A. D. Edmonston	143,323,127	122,004,712	138,209,589	30,681,232	40,908,310	165,001,651	135,760,852	158,159,592	130,071,140	166,514,106	180,918,440	170,907,428	1,582,460,179
Oso	13,505,226	13,589,458	15,223,562	1,679,028	932,169	11,865,506	12,488,824	14,527,243	10,708,717	13,892,694	14,757,477	12,398,976	135,568,880
Pearblossom	10,099,569	3,267,225	4,117,664	4,963,299	9,527,804	19,593,740	9,258,739	10,507,972	11,963,809	15,355,957	17,503,677	20,799,730	136,959,185

1/ Devil Canyon station service not included. State share of Tracy P.F. for pumping waterfowl mitigation water not included.



WATER QUALITY

WATER QUALITY
THERMALITO AFTERBAY AT FEATHER RIVER OUTLET

1975

Constitutents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total Dissolved Solids (mg/l)	b	54	59	54	53	42	30	56	42	48	65	49	39	49
Total Hardness (mg/l)	b	34	34	33	34	36	29	29	30	34	29	33	35	32
Chlorides (mg/l)	b	0.8	0.1	0.4	0.9	0.7	1.1	0.0	1.1	0.7	1.4	1.1	0.9	0.8
Sulfates (mg/l)	b	2.5	3.4	4.0	4.1	3.1	1.5	2.8	1.3	3.3	4.6	3.4	2.3	3.0
Sodium (%)	b	23	18	16	19	17	18	17	18	18	22	20	20	19
Boron (mg/l)	b	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
pH	c	7.3	7.5	7.5	7.6	7.3	7.6	7.2	-	7.3	7.4	7.4	7.3	7.4
Electrical Conductivity (Micromhos)	b	89	80	80	83	81	70	71	76	76	72	81	84	79
Sampling Date		1/15	2/19	3/19	4/16	5/21	6/18	7/16	8/20	9/17	10/15	11/19	12/17	

b - Laboratory analysis of monthly samples.
c - Field analysis of monthly samples.

WATER QUALITY
 PUTAH SOUTH CANAL TERMINAL RESERVOIR
 (INFLOW TO NORTH BAY AQUEDUCT)
 1975

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total Dissolved Solids (mg/l)	b	176	195	208	185	173	173	188	162	182	209	178	161	183
Total Hardness (mg/l)	b	158	117	131	158	156	150	150	150	151	144	150	151	147
Chlorides (mg/l)	b	8.3	13.0	12.0	6.3	6.6	5.3	6.0	5.9	5.2	5.8	6.4	6.0	7.2
Sulfates (mg/l)	b	25	35	43	24	20	18	21	18	20	21	15	19	23
Sodium (%)	b	15	25	28	14	13	13	13	12	12	13	13	12	15
Boron (mg/l)	b	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.2	0.2
pH	c	7.8	8.3	7.0	7.8	7.9	8.8	8.8	7.6	9.0	8.7	9.0	8.8	8.3
Electrical Conductivity (Micromhos)	b	351	312	348	326	325	311	312	313	312	298	317	317	320
Sampling Date		1/14	2/18	3/18	4/15	5/20	6/17	7/15	8/19	9/16	10/14	11/18	12/16	

b - Laboratory analysis of monthly samples.
 c - Field analysis of monthly samples.

WATER QUALITY
CALIFORNIA AQUEDUCT AT DELTA PUMPING PLANT

1975

C-III

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total Dissolved Solids (mg/l)	a	260	231	228	203	148	184	174	126	147	179(b)	126(b)	139	179
Total Hardness (mg/l)	a	104	95	94	85	67	79	76	60	68	70(b)	57(b)	66	77
Chlorides (mg/l)	a	63	54	53	45	30	40	37	24	27	24(b)	19(b)	25	37
Sulfates (mg/l)	a	41	36	35	31	21	27	25	17	21	21(b)	18(b)	19	26
Sodium (%)	a	50	49	49	48	43	46	46	41	42	41(b)	42(b)	42	45
Boron (mg/l)	b	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.2
pH	c	6.9	7.0	7.2	7.1	6.9	8.0	8.0	6.8	7.1	8.2	8.0	7.5	7.4
Elect. Cond. (Micromhos)	b	438	403	379	316	241	302	281	201	241	255	209	212	290
Fluoride (mg/l)	b	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.1
Lead (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Selenium (mg/l)	b	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hexavalent (Chromium)(mg/l)	b d		0.00							0.00				
Arsenic (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Iron (mg/l)	b	0.34	0.22	0.15	0.32	0.42	0.07	0.19	0.29	0.14	0.07	0.01	0.12	0.20
Manganese (mg/l)	b	0.04	0.03	0.02	0.02	0.03	0.02	0.03	0.02	0.02	0.02	0.00	0.01	0.02
Magnesium (mg/l)	b	12	12	12	11	8	9	8	8	9	8	7	7	9
Copper (mg/l)	b	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.04	0.00	0.00	0.01	0.00	0.01
Calcium (mg/l)	b	23	22	19	18	13	15	15	12	13	15	12	13	16
Zinc (mg/l)	b	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.00	0.00
Phenol (mg/l)	b d		0.002							0.000				
Color (units)	b	50	50	40	40	50	40	50	25	25	25	20	15	36
Sampling Date		1/15	2/19	3/19	4/16	5/21	6/18	7/16	8/20	9/17	10/15	11/19	12/17	

a - Weighted averages resulting from flow and correlation with continuous electrical conductivity.

b - Laboratory analysis of monthly samples.

c - Field analysis of monthly samples.

d - Sampling performed twice annually.

WATER QUALITY
SOUTH BAY AQUEDUCT TERMINAL RESERVOIR

1975

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total Dissolved Solids (mg/l)	a	250	234	240	219	171	187	194	150	173	204	137	141	192
Total Hardness (mg/l)	a	109	104	106	99	82	87	90	74	94	105	84	68	92
Chlorides (mg/l)	a	56	51	53	47	31	36	39	24	27	37	19	27	37
Sulfates (mg/l)	a	45	41	42	37	25	29	31	20	28	34	23	22	31
Sodium (%)	a	47	46	46	45	41	42	43	38	35	38	32	34	41
Boron (mg/l)	b	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.2
pH	c	6.9	7.1	7.2	7.5	7.1	8.7	8.1	7.9	7.5	8.9	8.5	8.0	7.8
Elect. Cond. (micromhos)	b	448	390	402	325	233	305	299	203	325	364	294	224	318
Fluoride (mg/l)	b	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1
Lead (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Selenium (mg/l)	b	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Hexavalent Chromium (mg/l)	b _d		0.00							0.00				
Arsenic (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Iron (mg/l)	b	0.00	0.20	0.05	0.20	0.20	0.01	0.14	0.14	0.10	0.03	0.01	0.11	0.10
Manganese (mg/l)	b	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.03	0.01	0.01	0.01	0.02
Magnesium (mg/l)	b	12	11	21	11	8	10	10	8	15	16	12	7	12
Copper (mg/l)	b	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Calcium (mg/l)	b	24	22	34	21	14	15	15	12	26	30	21	14	21
Zinc (mg/l)	b	0.01	0.04	0.02	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Phenol (mg/l)	b _d		0.0002							0.001				
Color (units)	b	50	50	25	30	25	35	40	35	15	15	15	15	29
Sampling Date		1/15	2/19	3/19	4/16	5/21	6/18	7/16	8/20	9/17	10/15	11/19	12/17	

a - Weighted averages resulting from flow and correlation with continuous electrical conductivity

b - Laboratory analysis of monthly samples.

c - Field analysis on monthly samples.

d - Sampling performed twice annually

WATER QUALITY
CALIFORNIA AQUEDUCT ENTRANCE TO O'NEILL FOREBAY

1975

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July*	Aug.	Sept.	Oct.	Nov.	Dec.	Annual ** Average
Total Dissolved Solids (mg/l)	a	269	217	219	209	161	146	243 ^{1/}	125	131	146	128	127	171
Total Hardness (mg/l)	a	106	90	90	87	71	67	98 ^{1/}	60	64	69	63	63	75
Chlorides (mg/l)	a	66	48	49	46	31	27	57 ^{1/}	21	23	27	23	22	35
Sulfates (mg/l)	a	50	37	38	35	23	20	44 ^{1/}	14	16	20	15	15	26
Sodium (%)	a	51	48	48	47	44	42	49 ^{1/}	40	40	42	40	39	44
Boron (mg/l)	b	0.2	0.2	0.2	0.2	0.1	0.1	1.3*	0.1	0.1	0.1	0.1	0.2	0.1
pH	c	7.0	6.9	7.0	7.7	7.3	8.9	8.6*	7.1	7.5	8.2	8.6	7.7	7.6
Elect. Cond. (micromhos)	b	471	384	345	323	234	274	957*	192	239	261	218	225	288
Fluoride (mg/l)	b	0.1	0.1	0.2	0.1	0.1	0.1	0.5*	0.1	0.1	0.1	0.0	0.1	0.1
Lead (mg/l)	b	0.01	0.00	0.00	0.00	0.00	0.00	0.00*	0.00	0.00	0.00	0.00	0.00	0.00
Selenium (mg/l)	b	0.00	0.01	0.00	0.00	0.01	0.00	0.01*	0.00	0.01	0.00	0.00	0.00	0.00
Hexavalent Chromium(mg/l)	b _d		0.00							0.00				
Arsenic (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00*	0.00	0.00	0.00	0.00	0.00	0.00
Iron (mg/l)	b	0.31	0.26	0.22	0.20	0.18	0.03	0.06*	0.12	0.14	0.06	0.01	0.13	0.15
Manganese (mg/l)	b	0.03	0.02	0.01	0.02	0.01	0.00	0.02*	0.01	0.02	0.01	0.00	0.01	0.01
Magnesium (mg/l)	b	13	11	11	11	8	10	37*	8	8	8	6	7	9
Copper (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.01	0.00*	0.03	0.00	0.00	0.00	0.00	0.00
Calcium (mg/l)	b	24	22	19	19	14	15	49*	11	14	15	13	14	16
Zinc (mg/l)	b	0.02	0.00	0.00	0.00	0.00	0.01	0.00*	0.01	0.00	0.01	0.01	0.00	0.01
Phenol (mg/l)	b _d		0.001							0.000				
Color (units)	b	50	50	50	35	25	15	5*	30	20	20	20	15	30
Sampling Date		1/15	2/19	3/19	4/16	5/21	6/18	7/16*	8/20	9/17	10/15	11/19	12/17	

a - Weighted average resulting from flow and correlation with continuous electrical conductivity.

b - Laboratory analysis of monthly samples.

c - Field analysis of monthly samples.

d - Sampling performed twice annually.

^{1/} - These results only represent the first ten days of July.

* - These tests taken when Pool 12 was dewatered.

** - Excluding July

WATER QUALITY
CALIFORNIA AQUEDUCT AT CHECK 13

1975

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total Dissolved Solids (mg/l)	a	258	224	234	223	219	252	251	181	152	152	156	157	205
Total Hardness (mg/l)	a	108	95	99	94	93	105	105	78	72	72	73	74	89
Chlorides (mg/l)	a	62	51	54	51	50	60	60	39	31	31	32	33	46
Sulfates (mg/l)	a	47	38	41	38	37	45	45	27	19	19	20	20	33
Sodium (%)	a	49	48	49	48	48	49	49	46	43	43	44	44	47
Boron (mg/l)	b	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2
pH	c	7.2	7.4	7.6	7.5	7.7	7.8	8.1	7.6	7.6	7.7	7.5	7.3	7.6
Elect. Cond. (micromhos)	b	499	359	426	399	393	464	450	282	283	294	297	305	371
Fluoride (mg/l)	b	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Lead (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Selenium (mg/l)	b	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Hexavalent Chromium (mg/l)	b d		0.00							0.00				
Arsenic (mg/l)	b	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Iron (mg/l)	b	0.11	0.11	0.10	0.10	0.06	0.01	0.02	0.08	0.07	0.04	0.01	0.09	0.06
Manganese (mg/l)	b	0.02	0.03	0.04	0.01	0.01	0.01	0.02	0.02	0.03	0.01	0.00	0.02	0.02
Magnesium (mg/l)	b	13	9.5	12	13	12	16	12	8	9	9	10	8	11
Copper (mg/l)	b	0.01	0.00	0.01	0.00	0.01	0.02	0.01	0.01	0.02	0.02	0.04	0.02	0.01
Calcium (mg/l)	b	24	20	22	21	21	22	25	16	16	16	13	17	19
Zinc (mg/l)	b	0.03	0.02	0.01	0.00	0.00	0.02	0.02	0.01	0.03	0.01	0.01	0.02	0.02
Phenol (mg/l)	b d		0.003							0.002				
Color (units)	b	25	40	35	30	10	5	5	20	20	20	15	10	20
Sampling Date		1/15	2/19	3/19	4/16	5/21	6/18	7/16	8/19	9/17	10/15	11/19	12/17	

a - Weighted average resulting from flow and correlation with continuous electrical conductivity.

b - Laboratory analysis of monthly samples.

c - Field analysis of monthly samples.

d - Sampling performed twice annually.

WATER QUALITY
CALIFORNIA AQUEDUCT NEAR KETTLEMAN CITY

1975

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total Dissolved Solids (mg/l)	a	267	227	239	227	213	255	255	195	164	164	163	169	212
Total Hardness (mg/l)	a	111	97	102	97	92	107	107	86	75	75	75	77	92
Chlorides (mg/l)	a	64	53	57	53	50	61	61	45	36	36	35	37	49
Sulfates (mg/l)	a	47	37	40	38	23	46	45	17	19	19	18	20	31
Sodium (%)	a	49	48	48	48	47	49	49	47	45	45	45	45	47
Boron (mg/l)	b	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2
pH	c	8.1	7.9	8.0	8.3	8.3	8.5	8.6	8.3	7.8	8.0	7.8	7.6	8.1
Elect. Cond. (micromhos)	b	550	376	414	420	370	461	460	320	290	287	271	279	375
Fluoride (mg/l)	b	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2
Lead (mg/l)	b	0.01	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Selenium (mg/l)	b	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hexavalent Chromium (mg/l)	b d		0.00							0.00				
Arsenic (mg/l)	b	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Iron (mg/l)	b	0.14	0.11	0.11	0.10	0.07	0.01	0.04	0.11	0.07	0.04	0.01	0.08	0.07
Manganese (mg/l)	b	0.02	0.01	0.02	0.01	0.01	0.00	0.02	0.02	0.02	0.01	0.00	0.00	0.01
Magnesium (mg/l)	b	13	10	12	13	11	14	13	10	10	9	8	8	11
Copper (mg/l)	b	0.03	0.01	0.03	0.02	0.01	0.01	0.01	0.02	0.02	0.01	0.05	0.02	0.02
Calcium (mg/l)	b	26	19	22	22	20	23	25	18	16	16	14	15	20
Zinc (mg/l)	b	0.03	0.01	0.11	0.01	0.02	0.01	0.01	0.00	0.04	0.02	0.00	0.02	0.02
Phenol (mg/l)	b d		0.002							0.001				
Color (units)	b	20	40	40	25	15	5	10	10	20	20	15	10	19
Sampling Date		1/15	2/19	3/19	4/16	5/21	6/18	7/16	8/20	9/17	10/15	11/19	12/17	

a - Weighted average resulting from flow and correlation with continuous electrical conductivity.

b - Laboratory analysis of monthly samples.

c - Field analysis of monthly samples.

d - Sampling performed twice annually.

WATER QUALITY
COASTAL BRANCH AQUEDUCT AT CHECK 5

1975

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total Dissolved Solids (mg/l)	a	252	213	225	211	197	248	243	167(b)	172(b)	156	156	156	200
Total Hardness (mg/l)	a	105	93	97	93	88	104	103	87(b)	79(b)	74	74	73	89
Chlorides (mg/l)	a	62	52	55	52	48	61	60	35(b)	31(b)	34	34	34	46
Sulfates (mg/l)	a	47	35	39	34	30	46	44	28(b)	24(b)	19	19	19	32
Sodium (%)	a	50	48	48	48	47	50	49	41(b)	41(b)	43	43	43	46
Boron (mg/l)	b	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2
pH	c	8.8	8.2	8.1	8.7	8.6	8.6	6.8	8.6	8.8	7.0	8.2	7.7	8.2
Electrical Conductivity (micromhos)	b	548	386	418	402	294	461	455	323	293	274	300	308	372
Sampling Date		1/14	2/18	3/18	4/15	5/20	6/17	7/15	8/19	9/16	10/14	11/18	12/16	

- a - Weighted average resulting from flow and correlation with continuous electrical conductivity.
b - Laboratory analysis of monthly samples.
c - Field analysis of monthly samples.

WATER QUALITY
CALIFORNIA AQUEDUCT AT CHECK 29

1975

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total dissolved Solids (mg/l)	b	293	259	275	247	190	257	263	157	167	186	162	154	218
Total Hardness (mg/l)	b	110	101	109	100	94	113	112	84	75	76	72	69	93
Chlorides (mg/l)	b	67	53	56	52	45	62	57	32	28	26	31	28	45
Sulfates (mg/l)	b	60	56	61	53	38	42	42	26	22	21	24	24	39
Sodium (%)	b	50	48	47	48	45	46	47	42	42	41	43	44	45
Boron (mg/l)	b	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2
pH	c	8.6	8.7	8.7	9.0	9.0	8.2	6.8	8.6	8.6	6.7	7.8	7.8	8.2
Elect. Cond. (micromhos)	b	496	419	438	408	355	461	445	306	276	276	283	271	370
Fluoride (mg/l)	b	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2
Lead (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Selenium (mg/l)	b	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hexavalent Chromium (mg/l)	b _d		0.00							0.00				
Arsenic (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Iron (mg/l)	b	0.11	0.09	0.14	0.08	0.04	0.04	0.04	0.13	0.07	0.04	0.01	0.10	0.07
Manganese (mg/l)	b	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.02	0.01	0.01	0.00	0.00	0.01
Magnesium (mg/l)	b	12	11	12	12	11	15	13	10	8	9	8	8	11
Copper (mg/l)	b	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.04	0.02	0.02
Calcium (mg/l)	b	24	22	23	20	20	20	24	18	16	16	15	15	19
Zinc (mg/l)	b	0.02	0.00	0.01	0.00	0.00	0.00	0.02	0.01	0.01	0.01	0.01	0.01	0.01
Phenol (mg/l)	b _d		0.001							0.001				
Color (units)	b	20	25	40	25	15	5	5	25	15	10	15	15	18
Sampling Date		1/14	2/18	3/18	4/15	5/20	6/17	7/15	8/19	9/16	10/14	11/18	12/16	

b - Laboratory analysis of monthly samples.

c - Field analysis of monthly samples.

d - Sampling performed twice annually.

WATER QUALITY
CALIFORNIA AQUEDUCT AT TEHACHAPI AFTERBAY

1975

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total Dissolved Solids (mg/l)	b	246	223	281	232	213	240	252	203	155	126	163	175	209
Total Hardness (mg/l)	b	102	105	105	100	97	113	111	85	78	78	71	75	93
Chlorides (mg/l)	b	63	56	55	54	47	60	59	36	30	26	33	34	46
Sulfates (mg/l)	b	55	57	59	54	44	42	40	30	21	19	22	31	40
Sodium (%)	b	52	48	48	49	46	48	47	44	42	43	47	46	47
Boron (mg/l)	b	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.11	0.1	0.1	0.1	0.1	0.2
pH	c	8.0	9.1	7.8	8.3	8.9	7.5	8.5	-	8.3	7.9	8.5	8.7	8.3
Elect. Cond. (micromhos)	b	474	455	450	447	394	465	458	333	293	282	304	299	388
Fluoride (mg/l)	b	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2
Lead (mg/l)	b	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Selenium (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hexavalent Chromium (mg/l)	b									0.00				
Arsenic (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Iron (mg/l)	b	0.02	0.03	0.06	0.11	0.06	0.03	0.01	0.01	0.02	0.05	0.03	0.03	0.04
Manganese (mg/l)	b	0.01	0.00	0.00	0.02	0.00	0.01	0.01	0.01	0.00	0.02	0.00	0.00	0.01
Magnesium (mg/l)	b	12	14	12	11	12	14	13	11	11	11	9	12	12
Copper (mg/l)	b	0.00	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.03	0.01	0.00	0.01
Calcium (mg/l)	b	21	19	22	22	19	22	23	16	13	13	14	10	18
Zinc (mg/l)	b	0.00	0.02	0.05	0.07	0.01	0.04	0.01	0.10	0.02	0.13	0.01	0.00	0.04
Phenol (mg/l)	b									0.000				
Color (units)	b	8	18	30	20	10	5	5	17	6	5	6	8	12
Sampling Date		1/15	2/19	3/19	4/16	5/21	6/18	7/16	8/20	9/17	10/15	11/19	12/17	

b - Laboratory analysis of monthly samples.

c - Field analysis of monthly samples.

d - Sampling performed twice annually.

VII-10

WATER QUALITY
PYRAMID LAKE AT ENTRANCE TO ANGELES TUNNEL

1975

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total Dissolved Solids (mg/l)	b	179	246	266	226	246	218	258	271	222	206	212	212	230
Total Hardness (mg/l)	b	96	111	105	107	110	111	115	115	105	105	102	98	107
Chlorides (mg/l)	b	41	53	48	50	49	51	56	60	50	46	40	39	49
Sulfates (mg/l)	b	41	55	51	55	58	57	49	45	37	37	35	38	46
Sodium (%)	b	44	46	46	45	45	45	47	47	45	45	44	44	45
Boron (mg/l)	b	0.1	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
pH	c	7.0	8.0	7.4	--	9.8	9.7	9.5	9.1	9.1	8.2	8.2	8.2	8.6
Elect. Cond. (micromhos)	b	376	460	422	433	440	443	465	476	423	4.2	393	378	427
Fluoride (mg/l)	b	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
Lead (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Selenium (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hexavalent Chromium (mg/l)	b		0.00							0.00				
Arsenic (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Iron (mg/l)	b	0.01	0.01	0.03	0.02	0.03	0.02	0.03	0.00	0.02	0.00	0.01	0.01	0.02
Manganese (mg/l)	b	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Magnesium (mg/l)	b	9.9	13	12	12	12	13	12	14	12	14	12	12	12
Copper (mg/l)	b	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.01
Calcium (mg/l)	b	22	23	22	23	24	23	26	23	22	19	21	19	22
Zinc (mg/l)	b	0.01	0.01	0.04	0.01	0.05	0.01	0.01	0.02	0.00	0.00	0.01	0.00	0.01
Phenol (mg/l)	b													
Color (units)	b	5	8	13	15	10	6	6	8	5	5	4	5	8
Sampling Date		1/14	2/20	3/18	4/18	5/14	6/13	7/11	8/15	9/10	10/15	11/18	12/16	

b - Laboratory analysis of monthly samples.

c - Field analysis of monthly samples.

d - Sampling performed twice annually.

WATER QUALITY
CASTAIC LAKE AT OUTLET WORKS

1975

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total Dissolved Solids (mg/l)	b	234	223	285	231	259	228	286	293	275	238	258	265	256
Total Hardness (mg/l)	b	133	126	124	126	130	119	138	133	134	132	128	129	129
Chlorides (mg/l)	b	45	46	46	46	46	47	47	48	48	51	46	45	47
Sulfates (mg/l)	b	68	63	59	62	66	72	77	78	76	66	62	64	68
Sodium (%)	b	40	40	41	40	41	43	40	41	40	41	42	40	41
Boron (mg/l)	b	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2
pH	b	--	7.9	7.3	--	9.4	9.2	9.5	9.5	9.4	8.3	8.3(b)	8.0	8.7
Elect. Cond. (micromhos)	b	478	461	450	458	468	456	485	482	479	484	475	468	470
Fluoride (mg/l)	b	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.4	0.3	0.3	0.3	0.3
Lead (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Selenium (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hexavalent Chromium (mg/l)	b		0.00							0.00				
Arsenic (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Iron (mg/l)	b	0.01	0.02	0.02	0.01	0.02	0.02	0.03	0.01	0.11	0.01	0.01	0.01	0.02
Manganese (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Magnesium (mg/l)	b	14	13	13	13	14	15	14	14	15	15	14	15	14
Copper (mg/l)	b	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.04	0.01	0.01
Calcium (mg/l)	b	30	29	28	29	29	23	32	30	29	28	28	27	28
Zinc (mg/l)	b	0.01	0.02	0.03	0.03	0.02	0.05	0.01	0.03	0.02	0.05	0.02	0.01	0.02
Phenol (mg/l)	b													
Color (units)	b	4	6	7	10	8	5	6	5	5	5	5	4	6
Sampling Date		1/14	2/18	3/17	4/14	5/12	6/9	7/7	8/11	9/8	10/14	11/17	12/15	

b - Laboratory analysis of monthly samples.

c - Field analysis of monthly samples.

d - Sampling performed twice annually.

WATER QUALITY
CALIFORNIA AQUEDUCT AT PEARBLOSSOM PUMPING PLANT

1975

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total Dissolved Solids (mg/l)	b	235	245	241	220	232	251	271	251	162	133	147	187	215
Total Hardness (mg/l)	b	93	108	93	102	96	113	118	108	76	78	71	78	94
Chlorides (mg/l)	b	58	68	45	53	53	61	62	56	30	29	29	34	48
Sulfates (mg/l)	b	49	60	47	54	55	42	41	40	24	20	20	30	40
Sodium (%)	b	52	52	47	48	49	47	47	48	42	44	44	45	47
Boron (mg/l)	b	0.0	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2
pH	c	8.3	9.7	8.2	8.3	8.3	7.8	8.5	-	8.5	8.0	8.5	8.8	8.4
Elect. Cond. (micromhos)	b	444	513	389	449	427	474	480	449	292	296	288	314	401
Fluoride (mg/l)	b	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2
Lead (mg/l)	b	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Selenium (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hexavalent Chromium (mg/l)	b d		0.00							0.00				
Arsenic (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Iron (mg/l)	b	0.03	0.01	0.03	0.07	0.03	0.03	0.02	0.02	0.03	0.04	0.03	0.03	0.03
Manganese (mg/l)	b	0.02	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01
Magnesium (mg/l)	b	11.0	14.0	11	12	13	14	14	14	9	11	9	11	12
Copper (mg/l)	b	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01
Calcium (mg/l)	b	19	20	19	21	17	22	24	20	15	13	14	13	18
Zinc (mg/l)	b	0.01	0.00	0.03	0.07	0.05	0.02	0.01	0.02	0.02	0.04	0.00	0.01	0.02
Phenol (mg/l)	b d									0.000				
Color (units)	b	8	10	25	20	10	5	5	5	7	13	7	9	10
Sampling Date		1/15	2/19	3/19	4/16	5/21	6/18	7/16	8/20	9/17	10/15	11/19	12/17	

b - Laboratory analysis of monthly samples.
c - Field analysis of monthly samples.
d - Sampling performed twice annually.

21-11A

WATER QUALITY
SILVERWOOD LAKE AT INLET TO SAN BERNARDINO TUNNEL

1975

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total Dissolved Solids (mg/l)	b	169	177	233	180	212	175	233	261	229	186	194	189	203
Total Hardness (mg/l)	b	90	90	91	91	93	97	105	107	109	97	90	87	96
Chlorides (mg/l)	b	45	46	46	46	48	48	44	57	53	45	38	36	47
Sulfates (mg/l)	b	34	35	33	34	39	41	54	44	40	33	28	28	36
Sodium (%)	b	48	48	47	47	48	46	47	49	46	45	45	44	47
Boron (mg/l)	b	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2
pH	c	7.2	8.9	8.9	7.8	9.2	9.1	8.5	8.1	9.0	8.4	8.5	8.0	8.5
Elect. Cond. (micromhos)	b	378	392	379	384	395	401	423	455	440	388	361	347	395
Fluoride (mg/l)	b	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Lead (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Selenium (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hexavalent Chromium (mg/l)	b d		0.00							0.00				
Arsenic (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Iron (mg/l)	b	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.00	0.01	0.01	0.01	0.01	0.01
Manganese (mg/l)	b	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Magnesium (mg/l)	b	11	11	10	10	11	12	12	12	12	12	11	12	11
Copper (mg/l)	b	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Calcium (mg/l)	b	18	18	20	19	19	19	22	23	23	19	18	15	19
Zinc (mg/l)	b	0.01	0.02	0.01	0.00	0.01	0.01	0.01	0.02	0.00	0.01	0.00	0.00	0.01
Phenol (mg/l)	b d													
Color (units)	b	5	6	6	5	7	6	5	5	5	5	5	5	5
Sampling Date		1/15	2/18	3/17	4/14	5/12	6/9	7/7	8/11	9/8	10/14	11/17	12/15	

b - Laboratory analysis of monthly samples.
c - Field analysis of monthly samples.
d - Sampling performed twice annually.

WATER QUALITY
DEVIL CANYON AFTERBAY

1975

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total Dissolved Solids (mg/l)	b	187	168	223	210		225	243	258	230	207	175	194	211
Total Hardness (mg/l)	b	94	93	93	92		91	105	109	106	96	93	85	96
Chlorides (mg/l)	b	45	46	46	46		48	54	58	51	45	38	37	47
Sulfates (mg/l)	b	33	35	32	36		40	40	42	37	34	28	27	35
Sodium (%)	b	45	46	47	46		48	47	48	46	46	44	45	46
Boron (mg/l)	b	0.2	0.1	0.2	0.2		0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2
pH	c	8.0	--	7.6	8.0		8.2	8.5	--	8.5	8.0	8.5	8.3	8.2
Elect. Cond. (micromhos)	b	376	388	379	388		399	429	455	432	390	364	338	394
Fluoride (mg/l)	b	0.2	0.2	0.2	0.2		0.2	0.2	0.2	0.3	0.3	0.2	0.1	0.2
Lead (mg/l)	b	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Selenium (mg/l)	b	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hexavalent Chromium(mg/l)	b d		0.00							0.00				
Arsenic (mg/l)	b	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Iron (mg/l)	b	0.01	0.02	0.02	0.01		0.02	0.02	0.04	0.01	0.02	0.01	0.01	0.02
Manganese (mg/l)	b	0.00	0.01	0.01	0.00		0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.01
Magnesium (mg/l)	b	13	11	11	10		10	12	13	13	13	11	11	12
Copper (mg/l)	b	0.00	0.01	0.01	0.01		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Calcium (mg/l)	b	16	19	19	21		20	22	22	21	17	19	16	19
Zinc (mg/l)	b	0.01	0.02	0.02	0.02		0.02	0.02	0.05	0.02	0.01	0.00	0.00	0.02
Phenol (mg/l)	b d													
Color (units)	b	5	7	9	5		5		5	5	5	5	6	6
Sampling Date		1/15	2/19	3/19	4/16		6/18		8/20	9/17	10/15	11/19	12/17	

b - Laboratory analysis of monthly samples.

c - Field analysis of monthly samples.

d - Sampling performed twice annually.

WATER QUALITY
LAKE PERRIS AT INLET

1975

VII-18

Constituents		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Average
Total Dissolved Solids (mg/l)	b	201	219	274	218	250	233	259	270	268	273	259	275	250
Total Hardness (mg/l)	b	114	111	111	116	114	114	117	120	123	124	127	126	118
Chlorides (mg/l)	b	58	60	59	59	60	61	63	64	65	65	62	62	62
Sulfates (mg/l)	b	42	42	39	40	41	41	43	47	45	45	43	45	43
Sodium (%)	b	47	48	48	46	48	48	48	48	47	48	46	46	47
Boron (mg/l)	b	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
pH	c	8.5	8.6	8.2	8.5	8.7	8.9	8.7	8.9	9.0	8.8	8.5	9.0	8.7
Elect. Cond. (Micromhos)	b	469	477	473	474	474	482	485	500	507	507	513	509	489
Fluoride (mg/l)	b	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.7	0.3	0.2	0.3
Lead (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Selenium (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hexavalent Chromium (mg/l)	b d		0.00							0.00				
Arsenic (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Iron (mg/l)	b	0.01	0.01	0.01	0.00	0.01	0.01	0.03	0.00	0.01	0.00	0.01	0.01	0.01
Manganese (mg/l)	b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Magnesium (mg/l)	b	13	13	13	13	13	13	12	14	14	15	15	16	14
Copper (mg/l)	b	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Calcium (mg/l)	b	24	23	23	25	24	24	27	25	26	25	26	24	25
Zinc (mg/l)	b	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Phenol (mg/l)	b d													
Color (units)	b	4	5	5	5	5	5	4	4	4	5	2	3	4
Sampling Date		1/14	2/19		4/15	4/13	6/12		8/12	9/10	10/15	11/19	12/14	

b - Laboratory analysis of monthly samples.
c - Field analysis of monthly samples.
d - Sampling performed twice annually.

WATER QUALITY
PESTICIDES IN CALIFORNIA AQUEDUCT
(Parts per Trillion)
1975

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Delta Pumping Plant												
Chlorinated Hydrocarbons					0	0		0	0			
Organic Phosphorous	0		15	5	5	0	10	0	0	80	0	
Herbicides	170	130									40	
South Bay Aqueduct - Santa Clara												
Terminal Tank												
Chlorinated Hydrocarbons								0				
Organic Phosphorous	0	15	0	5	15	5	65	0	0	0	0	0
Entrance to O'Neill												
Forebay (Check 12)												
Chlorinated Hydrocarbons		20			0	60		0	0			
Organic Phosphorous	0	15	25	5	5	0		0	0	40	0	0
Discharge from O'Neill P.P.												
Chlorinated Hydrocarbons	0					0	0	240	0			
Organic Phosphorous	0	0	30	5	5	0	50	0	0	0	0	0
Pole Line Road												
Chlorinated Hydrocarbons	--				0	0	0	130	120			
Organic Phosphorous	0	20	30	5	0	0	45	0	0	0	0	0
Near Kettleman City (Check 21)												
Chlorinated Hydrocarbons	--					0	0	95	0			
Organic Phosphorous	0	25		5	5	0	40	0	0	5	0	0
Herbicides	17,600		250	100	460	75					50	
Near Buena Vista P.P. (Check 29)												
Chlorinated Hydrocarbons	--				0	0	0	0	0			0
Organic Phosphorous	0	20	40	15	10	10	75	0	0	30	0	0
Tehachapi Afterbay												
Chlorinated Hydrocarbons	0				60	0	35	0	0			
Organic Phosphorous	200	0	10	10	50	90	0	0	0	10	0	
Pearblossom Pumping Plant												
Chlorinated Hydrocarbons	180				90	0	25	0	0			
Organic Phosphorous	0	0	15	5	90	180	0	0	0	0	0	
Herbicides	10	150									20	
Inlet to Mojave Siphon (Check 62)												
Chlorinated Hydrocarbons	80				25	35	35	0	0			
Organic Phosphorous	0	0	5	15	60	65	0	0	0	0	0	
Herbicides	10	350									60	